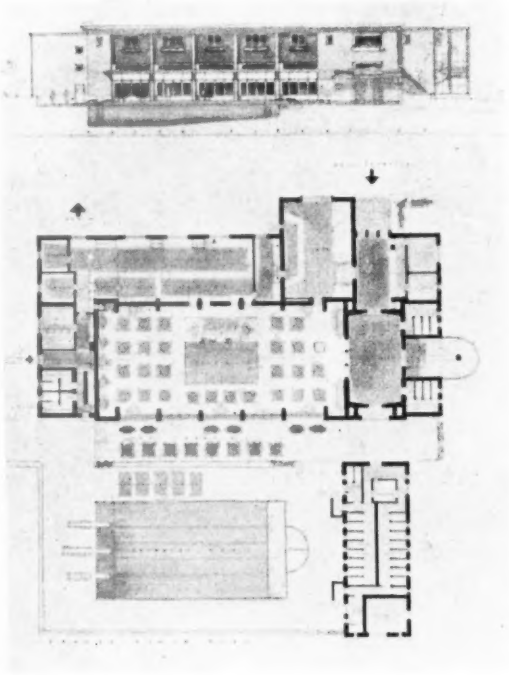
MANCHESTER SOCIETY OF ARCHITECTS

WINNING SCHEMES, STUDENTS' COMPETITIONS



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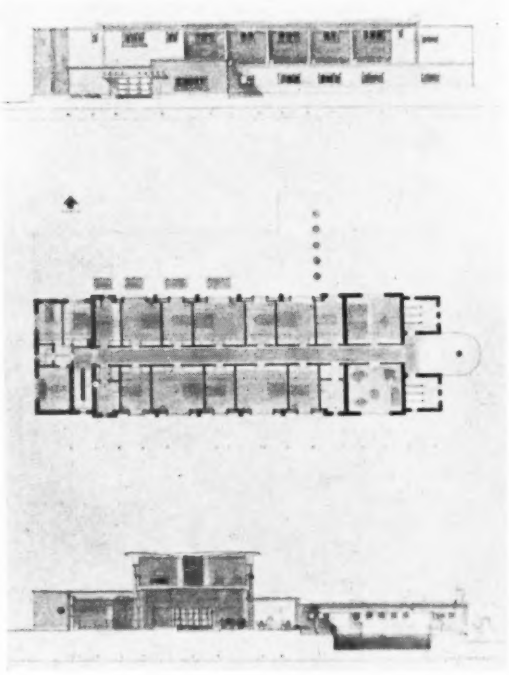

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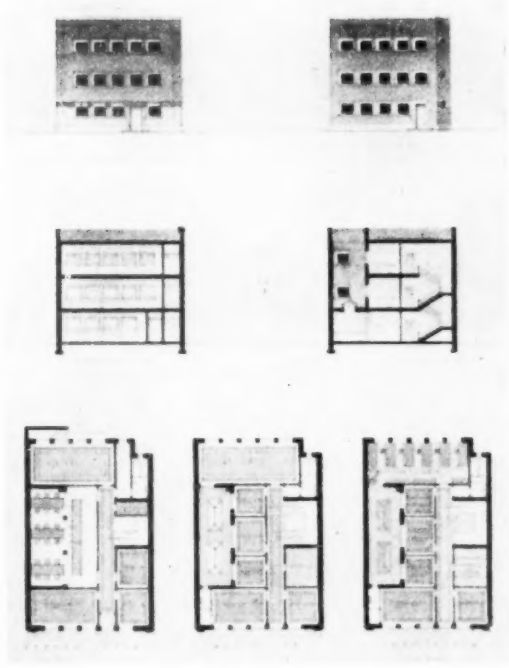


3

Following is the result of the Manchester Society of Architects' Students' Competitions :

Senior Measured Drawings Prizes : 1st, Bradshaw Gass Prize, S. Jeffcoat (£8 8s.). 2nd, Society's Prize, D. H. Thompson (£4 4s.).

Junior Measured Drawings Prize : Society's Prize. Divided equally, L. Massey and R. B. Turner (£5 5s.).

Sketches Prize—Beaumont Prize. Not awarded.

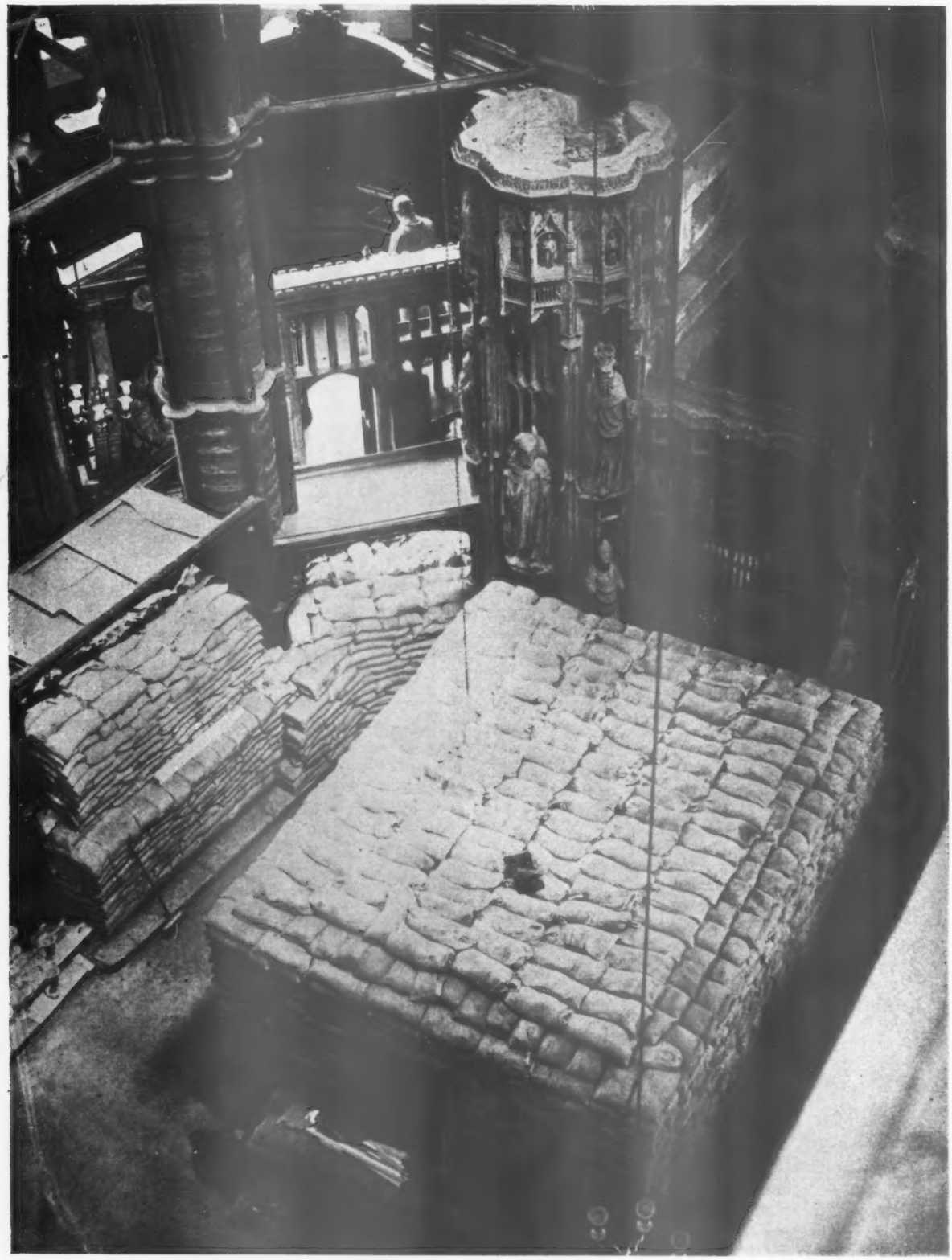
Essay Prize—President's Prize : Divided equally, J. Wilkinson and Miss D. Boagey (£5 5s.).

Senior Design Prizes : 1st, Society's Prize, Chas. Hilton (£10 10s.). 2nd, Woodhouse Bequest, Miss M. C. Elce (£3 3s.).

Junior Design Prize : Society's Prize : L. Massey (£4 4s.).

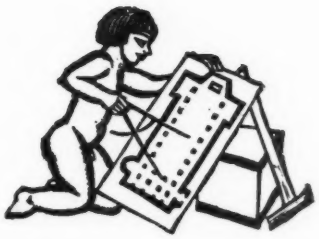
The illustrations show :

1 and 2 : Senior Design Prize — A Roadhouse. Winning Scheme : By Chas. Hilton. 3 : Junior Design Prize—An Architect's Office. One of the two schemes awarded first place : By L. Massey.



PROTECTION

The tomb of Edward the Confessor in Westminster Abbey sandbagged for protection against possible air raid damage. View was taken from the Triforium Gallery.



JANUARY 1915—JANUARY 1940

IT behoves me, on this first issue of a new year, to start appropriately with an assault on the enemy. Here I am in good company with a Royal Academician, Sir T. G. Jackson. What, he asks, have the Germans done in the realm of the Fine Arts to warrant all this claim of "kultur"? In music, without doubt, they have gained the predominant place. . . . But in the rest of the field they occupy a very inferior position. . . . Their Gothic architecture was borrowed from the French and spoiled; and their Renaissance work, when not verging on the grotesque, is commonplace. "The best architecture in Germany is their Romanesque work, which was borrowed from Lombardy. It is wanting in the finer graces, often clumsy and ill-proportioned. . . . Of the modern work in the west the less said the better. The truth is, the Germans are not a creative people, and therefore only in an inferior degree artistic. . . . What they are capable of at the present day may be judged by the monstrous pair of steeples at Cologne Cathedral, and the hideous monumental structure that vulgarises the meeting of two beautiful rivers at Coblentz."

THESE paragraphs began the leading article published in this JOURNAL on January 6, 1915. In January 1940 the central circumstance of war with Germany is the same, distress among architects is the same, and the war may continue for the same four years. So the attitude of architects towards 1915, as shown in that leading article, may suggest something to architects facing 1940.

The paragraphs quoted, and the curious indictment which follows, seem to us grotesque—at the moment—on two grounds. In this war we have not yet descended to denying all virtue in the German people or to the sprightly perception of embryo aggression in her past architecture. But this is not important to architects except as a warning of what may happen to all attitudes of mind when war begins in earnest.

What *is* important is the detachment of architects from all immediate and practical questions which the 1915 article took for granted. War building was going scramblingly on in 1915 as it is in 1940; architects were unemployed then as now, but the New Year article plainly regarded architects as members of a learned society which had been properly closed down for the duration. And in so far as the article did anything constructive it only whistled to keep their spirits up.

In January 1940 the most difficult fact which faces architects is that for the public the 1915 portrait of them is still true—while architects have entirely changed their view of themselves and their usefulness. This is hard; but being hard only for architects, it must for the present be treated as a subordinate matter. For unemployment among architects cannot affect the prosecution of the war to any measurable degree.

But unemployment in the whole building industry is quite different. And it is general failure to appreciate the difference between 1915 and 1940 as regards building which should absorb architectural energies for the next six months.

In 1915 the main front might have been beyond, or on, the sea. In 1940, at any moment, it may be the Home Front. In an uninterested way, grown more uninterested with each month since September, people realize this in its more spectacular aspects of gas, fires and first-aid stations. But they still do not look one stage further—to the need which will arise after air raids for the quick provision of new accommodation for people, goods and machines. They do not see that failure to keep the building industry ready to provide this accommodation may change severe air raids from tragic nuisances into serious military reverses.

This difference between 1915 and 1940 changes architects from professional spectators into well-informed participants in the war—even if for the moment unpaid and unwanted. And the first object for their energies is to convince the public, and the Government, of the necessity for the building industry being kept fit to deal with air raids.

B.I.N.C. is already trying to do this by an approach to the Government on behalf of the whole industry.

It is too much to expect, in the absence of air raids, that the representations of the industry will be effective at once, and therefore it is all the more important for architects to be ready to impress the arguments of the industry—individually, through Allied Societies and centrally—on all who will listen to them for the next six months.

The preparation of the building industry for air raids needs a knowledge of war-time contracts so far placed; plans for all 1940; a most careful allocation of future contracts; and, possibly, the release of a proportion of the peace-time work now held up.

To achieve these things will certainly need from architects six months repetition of facts and figures and arguments, while for most of them those six months will not be financially prosperous.

But if at the end they make their point that the building industry is a vital service in this war which must be maintained at adequate strength, they will have gone most of the way to convincing the public that architects are also useful in war, reserved or unreserved.

The Architects' Journal
45 The Avenue, Cheam, Surrey
Telephone: Vigilant 0087-9.

NOTES & TOPICS

THE END OF RESERVATION

AFTER rumours and counter-rumours for nearly a month, architects of all ages were finally removed from the list of reserved occupations last Thursday. There will be little regret at the ending for architects of a period in which they were harnessed, unharnessed, and harnessed again for drawing a vehicle whose form, contents and destination remained unknown throughout.

*

It would be best to leave the post-mortem on "the Reservation Period" to a future essayist, were it not that we are now set to stand on our own feet, with small bank balances, in the middle of a war.

*

We are therefore forced either to decide that architects are no use in war: or to try to discover why we have failed, so far, to convince anyone that they are—with the object of doing better next time.

*

One may suppose that when, a year ago, the news of the Architects' Register reached the compilers of the Central Register, the latter gentlemen decided to reserve us only because of the common impression at that time that war would mean the bombing to bits of most large cities. And it seems fairly certain, now, that when we were unreserved for the first time the Government had had to admit to themselves that they could think of nothing for us to do in war-time—as opposed to rebuilding afterwards.

*

Our restoration to the Register may, indeed, have been due to Government desire to have R.I.B.A. support for a shelter policy which was then being much battered rather than to any sudden change of mind. In fact, the present decision looks very like an admission of this.

*

What, then, of the future? During the next months most architects will have time on their hands. The best use they can make of it is to do all they can to see that the building industry is kept ready to deal with all war and post-war demands.

*

Air-raids have somewhat faded from the public mind. Architects should not let them fade from theirs. Allied Societies should shrink from no newspaper campaigns or bullying of local M.P.s unless the local builders are employed up to half peace-time turnovers. If war building contracts are not sufficient, they must nag and go on nagging for housing and public works to supply the difference. Only by local campaigns backing up B.I.N.C.'s central approach can we hope to do this.

*

If we can ensure this half speed of the building industry throughout the war, air-raids will have lost most of their menace. And if we can also help to improve the light, cheap, quick building techniques which are needed now, and will be needed still more after air raids, we will have been of the greatest use in war. We may even find people admitting it before the end.

MILITARY SERVICE

In the meantime the coming registration for military service of up-to-28 men, in combination with our being unreserved again, raises problems for architects round about 30.

*

Well-directed enlistment now—despite lateness in the field—may make the difference between 12s. 6d. and 2s. a day. Against this, the present state of the war cannot be said to demand the enlistment of anyone until he is called up—unless he can find a job in which he will be useful.

*

It would therefore seem well worth architects' while to compile a list of the jobs in which architectural training would be an asset. In the modern Services this list must extend far beyond the Royal Engineers and R.A. Survey sections, and can only be made complete by unofficial as well as official information.

*

Incidentally, architects whose names and qualifications are already on the Architects National Service Register have still to register again, when called upon, under the Military Training Act.

U.S.A. BUILDING . . .

While we are worrying about the way the Government is running the building industry, in the United States the Government is worrying because the building industry doesn't know how to run itself. When we are confronted with the terrible set-back to our housing programme, it is depressing to read that even in the peaceful United States there is no chance whatever, under present conditions, of maintaining the present inadequate housing volume of 525,000 new housing units a year for 10 years.

*

For this state of things the United States building industry is blamed. So, on the theory that no industry has so utterly failed to run itself or has so conspicuously burdened

the country with mass unemployment, a Government clean-up on the grand American scale has now begun.

*

Labour leaders all over the country have been indicted for "conspiracy in restraint of trade" and monopoly activities which showed they did not have "the interests of the public and the welfare of labour at heart." It is action like this that keeps us convinced, from time to time, that democracy is still alive.

. . . BIG BUILDINGS . . .

Mr. John D. Rockefeller, Jun., last month drove a silver rivet into the fourteenth and final building of New York's latest cluster of skyscrapers: Rockefeller Center, a £100,000,000 monument to the name of Rockefeller.

*

Some figures and facts to celebrate the event: 25,000 people (1,600 companies and their subsidiaries) work in it; there are 5,114,000 sq. ft. of floor space, 2 miles of shop frontage (85 per cent. rented); there are 191 lifts, some travelling at 1,400 ft. a minute. The whole group occupies 12 acres.

*

Dominating the group is a 70-storey office building, largest in the world, from which, on a clear day, you can see 50 miles. It houses, among many other things, N.B.C.'s radio and television studios (ventilated by 20,000,000 cub. ft. of air per hour) and a transparent woman with illuminated organs.

*

Also in the group are a 16-storey, 800-car garage, and the Radio City Music Hall, famous for "the best-trained row of legs in the world."

. . . AND LADIES IN CHEESECLOTH

There is a Section of Fine Arts in the U.S. New Deal, and when the great limestone and marble Post Office Department building was nearing completion in Washington, the S.F.A.'s chief artist advisor refused to allow the architects to have its walls decorated with the usual classical allegory. "I don't want any pictures of ladies in cheesecloth clutching letters and postcards," said he. And very few ladies in cheesecloth have adorned Federal buildings since.

*

The S.F.A. organizes competitions, and sees to it that mural art is at least of tolerable standard and not restricted to the biggest and most pretentious buildings.

LARGER LIGHT-LOCKS

Mr. Donald Hamilton, F.S.I., L.R.I.B.A., has devised a scheme for covering in the pavements of Oxford Street, so that trade can continue uninterrupted by the blackout.

*

The roof would be permanent, and the walls composed of canvas screens, removed by day and placed in position at night. Light-locks would be provided at all crossings and bus stops.

*

Mr. Hamilton has found many traders who are interested in the scheme, which he estimates would cost about £4 a foot, and he has now submitted plans to the authorities.

EXHIBITION

Just before Christmas, Sir Samuel Hoare opened an exhibition of photographs supplied by the big photographic agencies; it illustrates the events which led up to the war and is well staged in Charing Cross Underground Station.

*

The selection of the photographs and the way they are displayed—built out on blocks against a pale buff background, all behind glass—make it the clearest one for getting into the brain that Londoners have seen for a long time.

FORETHOUGHT

Extract from report on country premises of evacuated nursery school:

*

"Two fine sunny rooms have been allocated by the Director as night nurseries."

ASTRAGAL

PRICES

For two years the JOURNAL *has published a very full list of Prices in the following four weekly parts:—*

1. Current Prices—Part I
2. Current Prices—Part II
3. Measured Rates—Part I
4. Measured Rates — Part II, and Approximate Estimates

The outbreak of war has compelled all newspapers to reduce their size. The control of materials and uncertainties of transport have made the preparation of accurate prices very difficult; while the fall in building volumes makes the continued publication of so full a list of questionable usefulness at present.

The JOURNAL *has therefore decided to publish for the first six months of 1940 a reduced Prices Section of the following form:*

1. *On January 18 (New Year Issue) there will be included in the* JOURNAL *a loose Supplement containing the last pre-war list of Current Prices and Measured Rates. It is intended that this list should be kept as a basis of comparison for all war-time price changes. In this issue Messrs. Davis and Belfield will explain main changes since the outbreak of war.*

2. *In the first issue of each following month, Messrs. Davis and Belfield will describe the most important price changes of the previous month.*

3. *On April 4 and July 4 a list of Current Prices only will be published.**

The JOURNAL *emphasises that this reduction is temporary, and the full Prices Section will be resumed directly volumes of building work or other circumstances justify it.*

* Mr. O. A. Davis, of Messrs. Davis and Belfield, will explain, in the Supplement of January 18, how a Measured Rate can be found fairly accurately by comparing a war-time Current Price with the relevant Measured Rate in the pre-war Full List.

The Information Centre owed its inception to the difficulties that arose when architects were faced with the problems of A.R.P. and other emergency work that followed the outbreak of war. The specialized questioning goes on, but it is clear that an information centre is needed for general building problems too. This Centre exists primarily to simplify the task of the architect in these days when emergency legislation and defence measures have become his immediate concern, but it does not confine itself to this work alone. The Centre will provide an expert opinion on any question connected with building.

ARCHITECTS' JOURNAL

EMERGENCY

INFORMATION CENTRE

If you have a problem which demands an expert answer send it to:—

THE ARCHITECTS' JOURNAL,
45 THE AVENUE,
CHEAM, SURREY.
VIGILANT 0087

or ring:

THE A.J. INFORMATION CENTRE
FLAXMAN 5322

The Information Centre itself is working from London, but enquiries sent direct to the JOURNAL will be passed on without delay.

These are typical of the questions we have already answered:

What are the relative costs of sandbagging and brickwork?

How is a gas-lock formed?

How is a factory protected from incendiary bombs?

Are footings necessary to walls sub-dividing basement shelters?

How is wood protected against liquid gases?

How are ventilated black-out window screens formed?

How is sandbagging rotproofed?

How much safer is a 20-ft. deep shelter than a semi-surface type?

How is a light-lock formed?

How should screen walls be arranged?

How is a basement shelter protected from bursting water mains?

What is the definition of a light-proof material?

What publications are there on farm buildings?

What would be the maximum spread of debris if an h.e. bomb hit a 330-ft. stack?

What publications are there on camouflage?

What protection is needed for light shafts?

What is adequate provision for a first aid and decontamination centre?

Is a 1938 contract binding?

Who is responsible for making good air-raid damage to unfixed materials?

What is the cost per head of gas filtration?

Under what obligation is a building owner to provide shelter for the occupants?

How is a leaking shelter waterproofed?

How will the grant be paid?

Are cinemas to be provided with shelters?

Can blast-proof doors be used for naturally ventilated shelters?

Q132 GOLDERS GREEN.—*Can you enlighten me as to the obligations of people who EVACUATED THEIR OFFICES at the beginning of the war (1) with regard to rents, and (2) with regard to telephone services (the telephone having been disconnected on September 1, 1939)?*

The evacuation of your offices does not relieve you of the responsibility for payment of rent, nor from the observance or performance of the covenant contained in the lease. Concerning telephone, you should write to the telephone area officer for your district and either give one month's notice that you wish to have your telephone disconnected, or ask to have it cut off temporarily, in which case you will be charged rent but will have the advantage of keeping your old number.

Q133 AMBASSADOR.—*When an air raid shelter is to be built in the L.C.C. area, is it necessary to send COPIES OF DRAWINGS and specification to the L.C.C. as well as to the local authority?*

Under Section 81 of the Civil Defence Act air raid shelters are exempted from building by-laws. If two copies of drawings and a short specification are submitted to the local authority, this will be sufficient, but in the interests of the building owner it is as well to lodge a copy of the drawings with the L.C.C. for record purposes. The procedure will vary according to the class of building for which the shelter is being provided, and whether application is to be made for grant.

Q134 S.E. 11. — *We have made several enquiries during the past three years to ascertain the most economical method of treating a COMPOSITION FLOOR WHICH SWEATS. It is on a lower ground floor and is laid on concrete. During certain climatic conditions, such as very hot weather following a cool spell, and also during mild spells, there is trouble with damp on the composition. We believe that ordinary under-felt to carpets would prevent the nuisance. It is also possible to lay floor boards or parquet flooring on a layer of bitumen composition, as a means of curing the trouble, for a time or perhaps indefinitely. We should be glad if you would refer us to specialists able to deal with this problem so that we can consider which of the proposals submitted to us is most likely to meet the needs of the case.*

The sweating to which you refer is really condensation caused by the hygroscopic nature of jointless flooring. The only cure for this is to seal the surface. Waxing helps, but does not completely cure. A bituminous emulsion, used either as an adhesive for linoleum or as a sealing coat will be satisfactory. Ordinary underfelt

for carpets will not do, as water can collect beneath it, but this could be used over the sealing coat. If you consider the suggestion of sticking down lino, the Marbolith Flooring Company* will no doubt be able to advise you. Any good lino firm, like Catesbys,† can, of course, do the work.

Q135 MUSEUM.—*Can you tell me whether I can obtain immediate DELIVERY of mild steel rods, ½ in. and ⅜ in. diameter?*

We understand that the best delivery that can be offered is eight to ten weeks.

Q136 MANCHESTER.—*The following information would be much appreciated:* (1) *The joint councils of the R.I.B.A. and Builders' Federation have issued their "Recommendations" in regard to EXTRA COST OF MATERIALS AND LABOUR for works commenced before the war, under Form of Agreement containing no war clause, such as R.I.B.A. form, 1931. In this, they suggest the extra cost, minus any profit, be charged to the client. They state that they had not looked into the legal side. We understand that a case has been before the courts in which it was decided that the builder was liable to these extra costs, and that he must carry out such contracts at his pre-war schedule rates (priced quantities). Could you tell us more about this action, or refer us to papers containing any facts and details? While we wish to place before our clients the "Recommendation" of the joint councils, we feel it would only be fair to explain the legal side and leave them to decide upon the course to be adopted.* (2) *Should the contractor be liable in the above case, could you say, in the case of the contract having been signed by both client and contractor, and the priced quantities deposited with the architects in July, 1939, but no new work actually commenced, apart from demolition of property on the site, whether the contractor would still be liable to carry out the contract at the schedule rates set forth in the priced quantities?*

We have endeavoured to trace the report of the case to which you refer, but have been unable to find any reference to such a case in the High Courts or in the County Court reports. Possibly this case was heard in a County Court and reported in the local press. If you can give us further information concerning the case, we shall be pleased to make further inquiries. With regard to the second part of your question, a contractor is not relieved from carrying out the terms of his contract merely on account of increase of cost of performance, unless to an enormous or extravagant extent; consequently, in our opinion, the contractor is legally bound to carry out his contract in accordance with the agreed terms.

* *Messrs. Marbolith Flooring Company, 29 Albert Embankment, S.E.11.*
† *Messrs. Catesbys, Ltd., 64 Tottenham Court Road W.1.*

Q137 PETERBOROUGH.—*We are experiencing trouble with a beer cellar through EXCESSIVE TEMPERATURE caused by the following reasons:* (1) *The basement of the adjoining premises is used as a kitchen for the milk bar and the cookers are placed against the party wall.* (2) *Heat from two fireplaces above penetrates the reinforced concrete floor over the cellar. We shall be much obliged if you will suggest some treatment that would be successful in insulating this party wall and the fireplaces, and that could be carried out by a local builder. For No. 1 we have suggested a 4½-in. brick lining with cavity, but the brewery company does not seem to be very hopeful of this treatment. We would add it is not possible to ventilate this cavity other than into the cellar. We enclose herewith a plan of the cellar showing the points in question.*

The problem of the heat from the milk bar kitchen would be best solved by combining an insulating wall with ventilation. We suggest you build a free standing wall of 2 in. or 3 in. compressed wood wool slabs* or cork, 2 in. clear of the party wall and chimney breasts, and arrange air inlets at the bottom. If at the top you arrange an 8 in. by 2 in. open bottomed duct and lead this into an extract fan, which could discharge into the ground floor if necessary, this should overcome the difficulty. The wall alone will not be sufficient, as when it has reached its heat capacity it will commence to radiate heat into the cellar (Fig. 1 A). The open fires over the cellar should be of a basket type, or any in which the actual fire is clear of the hearth. If possible, you should lay a new back and front hearth over the existing one with a blanket of slag wool 1 in. thick between. Very little heat should then penetrate to the cellar (Fig. 1 B).

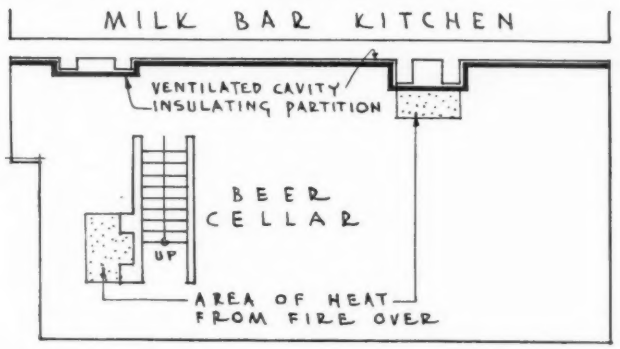
REFERENCE BACK

[*This section deals with previous questions and answers.*]

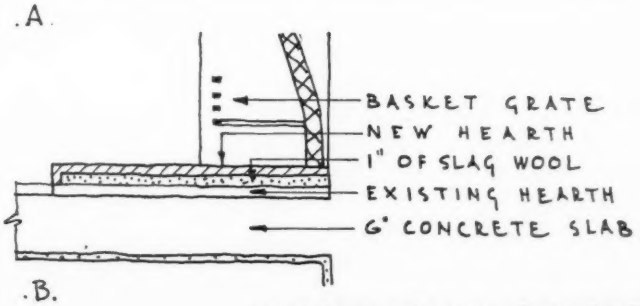
This is a reference to overhead protection afforded by existing hollow tile floors, described in column 1, page 574, A.J., November 9.

SCARBOROUGH.—*With reference to your research work in the* ARCHITECTS' JOURNAL *of November 9, and more particularly with reference to HOLLOW*

* *"Wellinlith," made by Messrs. Gliksten Door, Ltd., 7 Almond's Green, West Derby, Liverpool, 12. Stanley 1217-8-9. "Thermacoust," made by Messrs. Thermacoust Products, Ltd., 32 Victoria Street, S.W.1. Abbey 6211. "Heraklith" or "Gypklith," made by Messrs. Honeywill and Stein, Ltd., new address, The Distillers Co., Ltd., Research Department, Great Burgh, Epsom. Burgh 3470.*



1 .A.



1 .B.

INFORMATION CENTRE

BLOCK FLOOR CONSTRUCTION *I wish to point out that you regard the hollow tile floor as complying with the Home Office Code. If a further 3 in. of concrete is applied to the top of the floor, this agrees with the rules as set out in the Home Office Code, with the exception that they refer to the 3 in. additional concrete as being reinforced. Perhaps you will advise your readers of this omission, and it would also be useful to know what type of reinforcement the Home Office would request. I am thinking possibly road reinforcement would be sufficient in its quantity of steel to concrete, which is, I believe, 2 per cent. per cube foot of concrete.*

The Code cannot mean that the 3-in. concrete cover over hollow tiles should be reinforced in itself, because if it were so, scarcely any existing hollow tile floors would comply with this regulation. If a slab is reinforced at the bottom only, the whole construction is still called "reinforced concrete," and similarly in a hollow tile floor, ribs and cover together constitute reinforced concrete, even if the reinforcement exists at the bottom of the ribs only. The reference to reinforced concrete for this purpose, in the Appendix to the Code, would perhaps appear unfortunate, but has probably been chosen in order to differentiate between the concrete which has been cast together with the ribs, and any screed which has been laid on at a later date, and which consequently cannot be considered to act in a monolithic manner together with the steel. If a hollow tile floor is originally cast with, say, 1½ in. of concrete cover, it would be sufficient for ordinary purposes, but not for overhead protection, and any concrete which is added can be considered only as screed. Two inches of reinforced concrete might be added (this time really reinforced in accordance with the requirements of the Code, i.e. with not less than 2 lb. of steel in every cubic foot of concrete, of which one-third may run in one direction and two-thirds in the other). Such a structure is to be considered as a combination hollow tile and reinforced concrete construction, each part providing 50 per cent. of the overhead protection.

CURRENT PROBLEMS: *8th Article*

The article below is the first of a series of four

TEMPORARY & SEMI-PERMANENT BUILDINGS

BY EUGENIO FALUDI AND GODFREY SAMUEL

1. INTRODUCTION

(a) *General Considerations*

FROM the architect war must call for new sorts of building, especially the cheap, light and quick sort. Such building has, of course, been provided in the past, but the present demand is more urgent, and it is for something rather different. For the needs are largely new needs, and the means of satisfying them abnormal ones.

What are these needs ?

First, there are those of the fighting forces, both for defence and offence. Then there are the needs of an expanded and specialized industry, and of an agriculture that may well be expanded too. Again, there is the problem of accommodating and providing for those evacuated from danger zones, administrative and commercial staffs, children and mothers. And besides these, there remains the multitude of more normal replacement needs which must be fulfilled, if "the life of the nation is to go on."

How are these various needs being tackled, and what are the probable developments ?

1. Military building is mainly the extension of a technique already well established, though war conditions have brought into use a greater variety of materials.

2. Industrial expansion has been dealt with on traditional lines, but it may be asked whether in those cases where a return to smaller production is likely after the war, it would not be better to adopt a more temporary form of building. This applies particularly to factories for war supplies.

3. As for civil defence, the evacuated staffs of Government Departments have been housed mainly in hotels and schools commandeered for the purpose, but in order to release them again some kind of temporary housing has now been called for. Private firms have generally preferred the country mansion; but again, special extensions are usually needed.

4. Children and mothers from the towns have found hospitality among local families and have shared existing schools for half the day, but this state of affairs is unlikely to go on. New school buildings must eventually be provided, and there are such further social amenities as community centres, about which nothing has so far been done at all.

5. Further hospitals may be required, not only for casualties from the fighting forces, but also to deal with possible air raid casualties and epidemics at home. At the same time, the movement of the population on account of evacuation calls for revision in the distribution of medical services.

6. Agricultural expansion has hardly yet been tackled, but war conditions might make it extremely urgent. And there is this further consideration. If holiday camps and children's camps are to remain a permanent feature of our social policy, direct contact with agricultural production would have immense advantages, not only for training purposes (on the lines of the Fairbridge Schools) for post-war emigration to Dominions or Colonies, but for the better adjustment of human nature in the individual. It is no mere crank idea that regular contact with rural life, which can only mean agricultural life, benefits the townsman and town child.

On every side then it is clear that cheap, light and quick construction is needed. How is it to be provided ?

In deciding the best way, three major factors in the present situation must be borne in mind :

1. Financial resources must be more carefully conserved, especially if a long war is envisaged.

2. After some years skilled labour may be very much restricted, and building become dependent more on unskilled. Meanwhile, what labour there is available calls for the greatest elasticity. The old trades are too limited in their scope. War-time building methods must make use of skilled labour without having to confine it too much; only in this way can employment be fairly distributed.

3. Most important, however, is the limitation that is imposed on building materials, both in type and quantity, by the demands of other vital national services and by the difficulties of importation from abroad.

(b) *The Programme*

Now, in practice, cheap light and quick construction means single-storey construction. And single-storey construction has this further advantage, that it is less liable to expensive damage by air raids than multi-storey buildings. In a thickly populated district liable to heavy bombing, it may be wise to distribute the people in a few very safe places. In a rural settlement where the risk is of a single accidental bomb and does not warrant such special precautions, the people are better more widely and thinly spread.

But within the single-storey type, the several different building needs call for different methods of construction, not only on account of the different activities that go on in them, but, more important, on account of the varying length of life that is expected of them. We may tabulate the requirements according to this length of life :

A.—*Temporary, some semi-permanent:*—

1. Military (including naval and air force).
(*a*) Men : Barracks, including dwellings and communal rooms, hospitals, etc.
(*b*) Goods : Stores, hangars, garages, etc.
(*c*) Production : Arsenals.

2. Administrative.
(*a*) Men : Dwellings, communal buildings.
(*b*) Production : Offices.

3. Commercial.
(*a*) Men : Dwellings, communal buildings.
(*b*) Production : Offices.

B.—*Semi-permanent, some permanent :*

1. Evacuees.
(*a*) Mothers and children : Dwellings, communal buildings.
(*b*) Production : Schools.

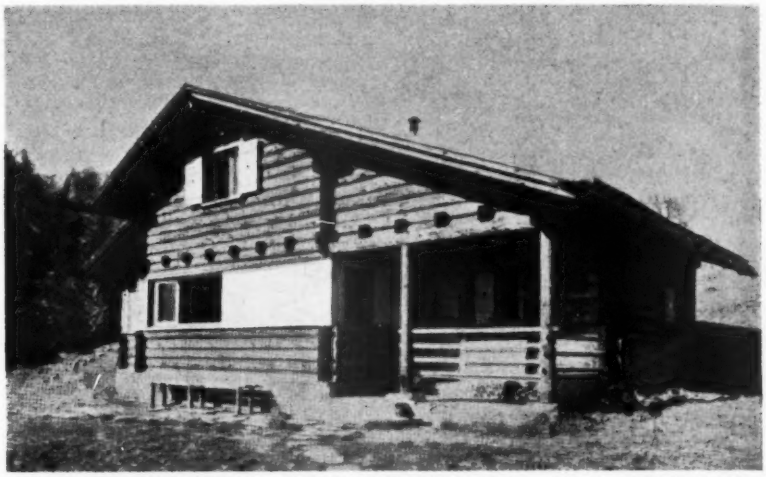
2. Agriculture.
(*a*) Men : Dwellings, communal buildings.
(*b*) Goods : Accommodation for livestock, stores.
(*c*) Production : Dairies, etc.

3. Industry.
(*a*) Men : Dwellings, communal buildings.
(*b*) Production : Factories.

This programme might be summed up diagrammatically :—

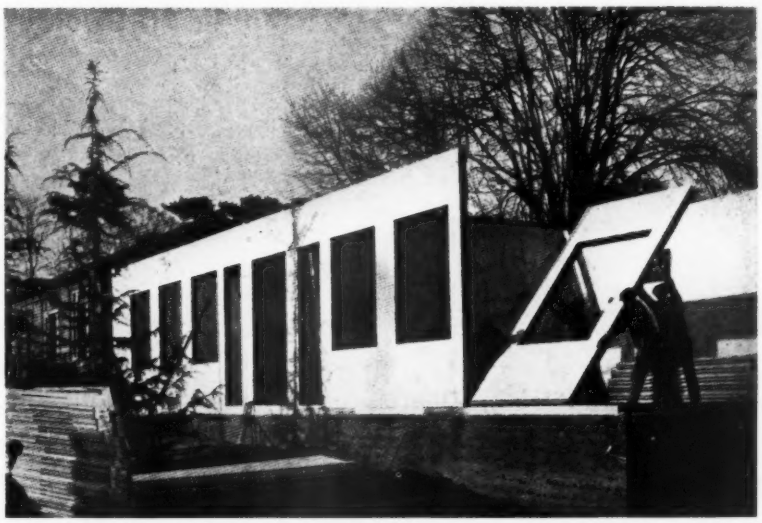
	TEMPORARY		PERMANENT
GOVERNMENT	MILITARY	OVERSEA	
		HOME	
	ADMINISTRATION		
COMMON	INDUSTRY		
			AGRICULTURE
PRIVATE	EVACUEES		
	COMMERCE		

The illustrations on this and two following pages show various types of light building construction which will be discussed in later articles.



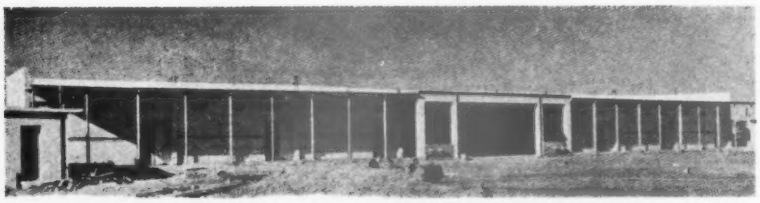
SOLID TIMBER CONSTRUCTION : LOAD-BEARING WALLS OF 8 in. BY 4 in. DRESSED TIMBERS, WITH 1-in. CAVITY AND 1-in. BOARDED LINING—FRANCE (RENEE FAUBLEE).

TIMBER SKELETON CONSTRUCTION : 4 in. BY 2 in. FRAMING WITH ⅜ in. DIAGONAL BOARDING, ⅜-in. VERTICAL CEDAR BOARDING AND WALLBOARD LINING—ENGLAND (MAX LOCK).

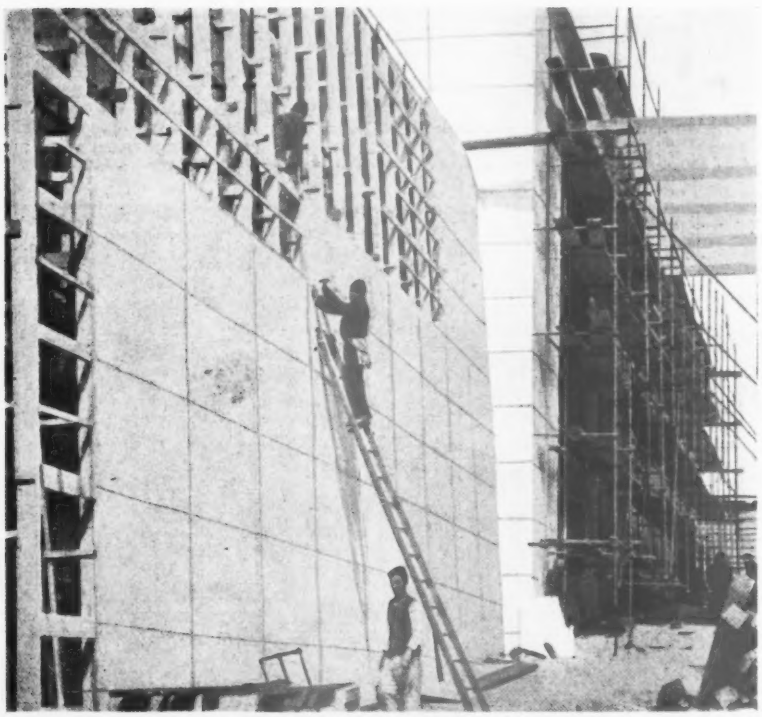


PRE-FABRICATED TIMBER UNITS : SELF-SUPPORTING 2 in. BY 2 in. FRAMES WITH ¼ in. PLYWOOD EACH SIDE AND SITE OR SHOP FIXED WEATHERBOARDING—U.S.A. (ARMORICAN SYSTEM).

ASBESTOS CEMENT PANELS IN TIMBER FRAME: 4-ft. 6 in. BY 2 ft. SHEETS ⅛ in. THICK TO THE EXTERIOR AND ¼ in. TO THE INTERIOR—ITALY (PATER CEMENTO SYSTEM)



BLOCK CONSTRUCTION IN PUMICE WITHOUT SKELETON. SCHOOL IN KIRYAT MOTZKIN, PALESTINE



TIMBER SKELETON CONSTRUCTION WITH BLOCK COVERING 4 in. THICKNESS. "CARPILITE" WOOD SHAVING WITH CEMENT BINDING—ITALY

What do these varying degrees of permanence mean, in terms of building technique?

1. Purely temporary building requires either :—
(*a*) Light materials of a limited life, or (*b*) more durable materials which can be disassembled and re-used.

2. Semi-permanent building requires generally a lasting framework, but infilling and coverings need not have so long a life.

3. Permanent building does not call for any structural system capable of being taken to pieces, and it must have thoroughly durable materials.

(c) *Materials and Methods*

These are the main considerations governing the choice of materials and system of construction, dependent on the requirements of the building alone. What are the limiting factors set by the kind and quantity of materials available?

Materials normally used in light construction may be grouped according to the form in which they are used.

1. Materials for panels, alone or in combination, are :
(*a*) Timber.
(*b*) Wallboards, including treated shavings and cork.
(*c*) Asbestos cement.
(*d*) Metal sheets of various kinds.

2. Materials for block construction are :
(*a*) Brick.
(*b*) Moler blocks.
(*c*) Concrete panels and blocks, including aerated concrete, pumice, breeze, etc.
(*d*) Stone.

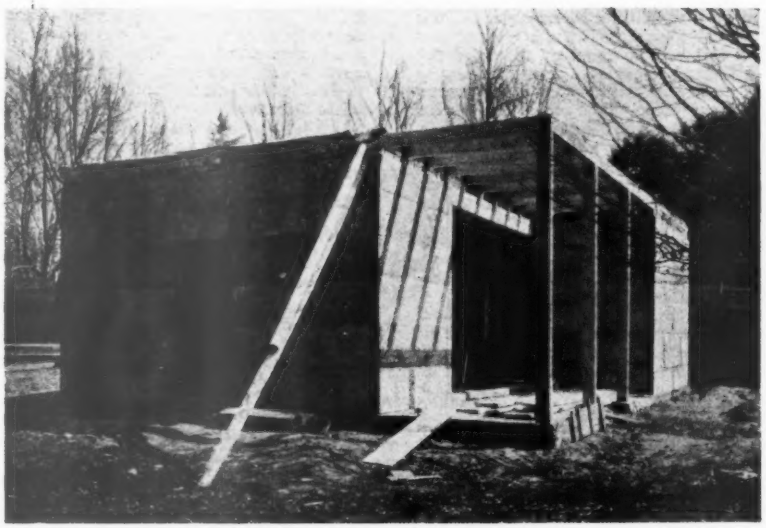
3. Materials for frames are :
(*a*) Timber.
(*b*) Steel.
(*c*) Reinforced concrete.

4. Materials for roofs are :
(*a*) Tiles and slates.
(*b*) Metal sheets.
(*c*) Asbestos cement.
(*d*) Timber.
(*e*) Bituminous felt.

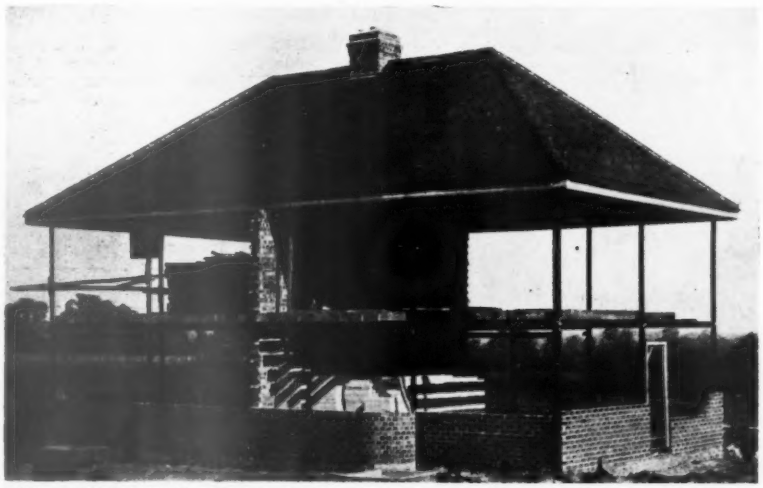
How far are these materials at present available ?

One cannot see very exactly what effect the war will have on imports, but we know that certain building materials are likely to be very limited in supply, solely on account of their foreign origin. The most important from our point of view is timber, including such by-products as fibre and pulp boards, wood shaving boards and paper. These softwood products come mostly from the Baltic and White Seas, but considerable supplies are also shipped from Canada.

Another important overseas product is asbestos fibre, which is obtained from the Dominions, Canada and South Africa and, to some extent, Italy.



BLOCK CONSTRUCTION: 3 ft. 3 in. BY 1 ft. 7½ in. BY 4 in. MAGNESITE BLOCKS (WOOD SHAVING) LOAD BEARING, RENDERED INSIDE AND OUT—ITALY (FALUDI, GRIFFINI AND BOTTONI).



STEEL SKELETON WITH BRICK INFILLING: 6 in. BY 3 in. I TO 4 in. BY 3 in. T STEEL FRAME WITH 4½-in. BRICK PANELS, UNTIED, 3-in. CAVITY, AND 2½-in. PLASTER BLOCK LINING—ENGLAND (DENNIS POULTON).

Then there are certain materials produced in this country but urgently required for other purposes. Most important are steel and other metals, required for armaments.

A further limitation temporarily imposed on our choice of materials is the virtual monopoly of such timber as there is by Government Departments. In the end every requirement of a war-time building programme will have to be considered equally on its merits.

Our best plan is to look for the cheapest and technically best solution of each problem, having regard to the proportion of stocks of various materials available, or likely to become available, and to the necessity of keeping the building industry running as smoothly and normally as possible.

In many cases the different building purposes have the same broad programme as far as plan dimensions are concerned. To this extent structural units can and should be at once standardized for mass production. Further standardization will, of course, depend on the particular material used and type of construction.

With these ends in view, we propose to examine in subsequent articles the various techniques available for temporary and semi-permanent building.

We shall consider them according to the materials used, and in this order:

1. Panel system.
(*a*) With skeleton frame.
(*b*) Self-supporting.
2. Block system.
(*a*) With skeleton frame.
(*b*) Piers and panels.
(*c*) Self-supporting.

In each case, we shall examine the present use of the material and methods of construction in this country. It must be remembered, however, that Great Britain has hitherto had less need than other countries to study these methods, especially the use of synthetic materials, on account of her comparative wealth and policy of long-term building. Now we have a very different state of affairs, and there is much that can be learned from the experiences of the Continent and of America in the course of the last twenty years.

We shall, therefore, include in each article a general review and comparison of various foreign methods, with some recommendations for use here and now.

Finally, we shall discuss such non-structural elements as doors and windows, and equipment for heating, lighting, water supply and drainage, suitable for these building methods.

Architectural Front

AIR RAID PROTECTION INSTITUTE

By an order of the L.C.C., Wood Street, Westminster, is to be incorporated with and under the name of Great Peter Street as from January 1, 1940. On and after that date, the address of the Air Raid Protection Institute will accordingly be: 2 Millbank House, Great Peter Street, London, S.W.1. Telephone: Whitehall 9227.

R.I.A.I.

On page 754 of last week's issue we referred to the establishment of a National Council of the Building Industry of Ireland. The Council has issued the following announcement on the manner in which it is constituted and the nature of its objects:—

The National Council was formed on November 14, 1939, by the following bodies, the names of whose nominated representatives are given hereunder: The Royal Institute of the Architects of Ireland: J. J. Robinson, M.ARCH., W. H. Howard Cooke, J. H. Webb. Institution of Civil Engineers of Ireland: N. O'Dwyer, B.E., A. D. Delap, B.A.I., M.INST.C.E., M. F. E. Dobbin, B.A.I. Chartered Surveyors' Institution (Eire Branch): J. Kavanagh, E. J. Anthony. Federation of Builders, Contractors and Allied Employers of Ireland: D. J. McCaffrey, T. Crampton, W. M. Thompson. Associations of Builders' Providers: H. M. Dockrell, T.D., C. M. O'Kelly, H. Garner. Irish Trade Union Congress: S. Kyle, M. Somerville, E. Lynch.

The joint secretaries to the Council are: E. D. Buckley, B. ARCH., C. J. Burgess, B.A., B.COMM., 8 Merrion Square, Dublin, to whom any communications may be addressed.

Building Front

A hundred representatives of SMALL MANUFACTURING FIRMS assembled in London last week with the object of forming an Association to look after their interests in the matter of Government contracts. Mr. John A. R. Macdonald, who had called the meeting,

presided. It was decided that an Association be formed, and that this should be called the Small Manufacturers' Association. A temporary committee was elected to take the steps necessary for organizing the Association, and a resolution was passed expressing the meeting's alarm at the neglect of the small manufacturer by the Ministry of Supply, which neglect, the resolution stated, was contrary to the public interest and hindered the successful prosecution of the war.

The Chairman said it was necessary for small manufacturers, such as those present or represented, to have an association, and from that association to elect a strong committee which could handle the association's affairs with the Ministry of Supply and the Board of Trade. As separate units, small manufacturers would be unable to get a hearing from the Ministry of Supply, because the Ministry's principle was to give out its requirements in large units. Sub-contractors were not satisfied with the treatment they were receiving; in some cases they did not even receive a profit on the work they were doing. Why should not the Ministry place orders in small units with actual makers? He had addressed letters to the Minister himself and his secretaries, and of these letters the only acknowledgment had been a postcard. After the present meeting he was going to approach fifteen hundred small manufacturers who were getting no war work. If those manufacturers had to close down that would increase unemployment, and cause not the manufacturers only, but the workers also, to lose heart and faith in the Government. Many manufacturers could undertake to do work with foreign countries, and we had a unique position now that Germany was out of the market. He proposed that a committee be formed to see Mr. Stanley on the matter, and ask that the Overseas Department act as the agent of the small manufacturer in finding out the materials, prices and conditions as regards payment and terms of payment of German exporters.

Members of the temporary committee are: Mr. John A. R. Macdonald (Chairman), Sir Charles Allen (Vice-President, Incorporated Association of Architects), Mr. Robert Sanders (Chairman, Buckland Silicate Company), Mr. G. G. Blakey (Trinity Works, Scarborough), Mr. Cecil Grayson and Major Thomas.

The Board of Trade has, at the request of the Ministry of Supply, issued an Order placing the classes of TIMBER and timber manufactures set out in a Notice to Importers† on the list of goods which may be imported only under a Board of Trade licence. The object of this Order is not to restrict supplies of any raw materials but, on the contrary, to enable the Timber Control of the Ministry of Supply to regulate purchasing and transport arrangements so as to ensure the best utilization of the facilities available and to put the materials which can be obtained to the best use.

There are twelve groups of commodities covered by the Order. For the main groups applications for licences should be sent to the Timber Control Department (Branch 8), Ministry of Supply, Elmdale Road, Bristol, 8, and for others to the Import Licensing Department, Board of Trade, 25 Southampton Buildings, Chancery Lane, London, W.C.2.

It is therefore important that importers should obtain from the Timber Control Department or from the Import Licensing Department a copy of the Notice to Importers which explains in detail the procedure which they should follow in applying for licences.

Application forms for licences may be obtained from either of the above-mentioned Departments or from the Offices of H.M. Collectors of Customs and Excise.

The Minister of Supply has issued a Direction (No. 2) dated December 22, 1939, under the Control of IRON AND STEEL (No. 4) Order, 1939, to come into operation as from January 1, 1940. The new Direction supersedes the Direction (No. 1) issued at the same time as the No. 4 Order. The main features of the new Direction are that the exemption of pre-war contracts from the requirement of a licence disappears and in future deliveries under such contracts will be subject to the licensing provisions of the Order, and, except in the case of departments of the United Kingdom Government, the existing exemptions from licence have been restricted to purchasers of materials for use in the United Kingdom.

† NOTICE TO IMPORTERS No. 24: WOOD AND TIMBER

1. At the request of the Ministry of Supply the Board of Trade has issued an Order (the Import of Goods (Prohibition) (No. 12) Order, 1939), under which the goods set out in the Schedule attached to this Notice will be prohibited to be imported except under licence issued by the Import Licensing Department of the Board of Trade. The Order comes into effect on January 1, 1940.

2. It is pointed out that certain of the categories of goods in the Schedule were prohibited from importation except under licence by the Import Prohibition (No. 1) Order of September 3, 1939.

3. *For licensing purposes* the goods in the Schedule fall into two groups, viz., I to VII inclusive and the remainder VIII to XII.

4. The procedure to be followed by importers will, therefore, vary according to the group in which they are interested. *The following directions should be carefully studied by importers.*

GROUP I TO VII

5. (i) Licences will be issued by the Import Licensing Department of the Board of Trade on the recommendation of the Timber Control, Ministry of Supply.

(ii) *Applications for import licences must be submitted in duplicate to the Timber Control Department (Branch 8), Ministry of Supply, Elmdale Road, Bristol, 8.* Application forms may be obtained from the Import Licensing Department, Board of Trade, 25 Southampton Buildings, Chancery Lane, London, W.C.2, the Timber Controller, and the offices of H.M. Collectors of Customs and Excise.

(iii) After examination of these applications, the Timber Controller will pass them to the *Import Licensing Department (Section 9)* which, in approved cases, will issue and send the licence direct to the applicant.

(iv) *Importers should submit their applications to the Timber Controller before arranging shipment.* They are further advised that, in order to expedite the issue of licences, *a separate application should be made not only for each class of goods but in respect of each proposed purchase or transaction.*

(v) It should be noted that except in the case of Contracts placed before September 16, 1939, *the issue of licences in respect of boxboards (whether wired or not), other than plywood boxboards, will not, until further notice, be entertained.* Importations are being conducted centrally by arrangement with the Timber Control. The existing Open General Licence for boxboards will be withdrawn on January 1, 1940.

GROUP VIII TO XII †

6. (i) *Until further notice licences will be issued only for Item X of this group.*

(ii) *Applications must be submitted* (only one copy required), not to the Timber Controller, but to the *Import Licensing Department (Section 4), Board of Trade, 25 Southampton Buildings, Chancery Lane, London, W.C.2.* Application forms may be obtained from the sources indicated in Paragraph 5 (ii) of this Notice.

SCHEDULE

Wood and]Timber and articles manufactured wholly or partly of wood and timber, the following :—

I.—Wood and timber hewn, sawn, planed, dressed, tongued, grooved, beaded, v-jointed, rebated, chamfered, centre beaded, centre v-jointed, round edged, or similarly prepared (other than roundwood logs of pine, spruce and aspen in the natural state or free from bark or bast, not hewn or sawn except cross-cut at the ends, in lengths not exceeding 50 inches, the top diameter not being more than 12 inches).

II.—Pitwood, pitprops and mining timber of all descriptions.

III.—Builders' woodwork.

IV.—Boxboards, whether in sets or not, and staves.

V.—Boxes, barrels, casks and packing cases, and parts thereof, other than such articles in use at the time of importation as carriers of goods.

VI.—Plywood, laminboard, blockboard and batten board.

VII.—Veneers.

VIII.—*Furniture and parts thereof.

IX.—*Beadings and mouldings.

X.—Trunk and suitcase hoops, being battens of wood, bent to shape, whether rounded or otherwise shaped at the ends or not.

XI.—*Articles of a kind used for domestic purposes.

XII.—*Wooden heels.

* Until further notice no licences will be issued for categories of goods against which there is an asterisk.

INFORMATION CENTRE

WM. SANDERS & CO. (WEDNESBURY), LTD. Specializing in the Lytout automatic switch for front doors of private houses, pantry doors, shop doors, etc. Fixed by means of two small wood screws, this device will, it is claimed, automatically perform a number of useful functions.

Fitted to a door frame, it will—

A. Switch "off" a light immediately the door is opened;
B. Switch "on" a light immediately the door is opened;
C. Switch "off" the main light and switch "on" a pilot light; or
D. Switch "off" the main light and operate an electric bell.

CONCRETE, LTD. In order to cope with increased demand for precast trench linings, which can be fitted to trenches as soon as they are dug, this firm have opened branch factories in Birmingham, Derby, Newcastle and Glasgow. One of the advantages of the pre-cast trench lining is that it can be put up into position at speed by semi-skilled labour, thus materially reducing costs.

GRAVITY LADDERS. This firm inform us that owing to increased cost of labour and material they have been compelled to advance the price of all their products by 10 per cent. This increase became operative on January 1, 1940; all orders received before that date have been accepted at the old prices.

GENERAL ELECTRIC CO. This firm has just introduced a complete range of public A.R.P. signs designed to serve all purposes and conform to the specification recently issued.

LETTERS

Reserved for What?

SIR,—Why haven't the R.I.B.A. . . .? Well, primarily because at least 75 per cent. of the members do nothing whatever except bleat, "Why haven't the R.I.B.A.?" when it is too late.

This large majority have not only to become fiercely convinced that someone else is to blame, they have got to do something themselves. This means time or money or both. Half-time, by many more than a few "tired committee-men," and money to pay for additional whole-time work. The average busy architect—it does not matter whether he is salaried, official or private—can and must supply the half-time requirements, but anyone who has represented the R.I.B.A. on outside committees, enquiries and conferences knows that other bodies spend relatively large sums in getting up and presenting their case with the assistance of experts. Certain important interests have in the past asked for and obtained "square deals," but these results were not achieved by half-timers only: hard work and hard cash were spent on brains to do whole-time work which is essential to supplement the part-time services of professional men who, of necessity, have to devote the greater part of their energies to earning their living.

Is the average architect able and

willing to give more of his time and to pay a higher subscription to the Institute?

The best results can never be obtained if only a comparatively few men attempt to discharge all the duties of a Member of Council, the Board of Architectural Education, numerous committees, boards, panels, tribunals, the A.R.C.U.K., etc., etc.

"What has the R.I.B.A. done for me?" "What have *you* ever done for the R.I.B.A.?" The man who expects to get something out of anything without putting in more than he takes out will always be disappointed.

London. "S. O. S."

Planning in the Country

SIR,—With reference to Astragal's notes (in the JOURNAL of December 14) about the planning of the Peterhouse Estate at Woodbridge, the remark that negotiations lasted several years gives a wrong impression.

As soon as the Suffolk Panel was in direct communication with the Authorities of Peterhouse, the response was immediate and courteous. All who are interested in planning in Suffolk are grateful for the way in which the suggestions made by the Panel have been met and acted upon.

It is confidently expected that in years to come, Peterhouse will be justly proud of this estate. I should be very glad if the impression that there have been any difficulties with the Authorities of Peterhouse could be corrected.

HILDA MASON
Hon Sec., The Suffolk Association of Architects

A.A.S.T.A. Manifesto

SIR,—In a recent issue of the JOURNAL, Astragal accused the A.A.S.T.A. of sectionalism in its policy as outlined in the Manifesto. After reading the Manifesto myself, I failed to see any basis for this accusation, for it calls for an end to the present policy of the R.I.B.A. which in its insistence on serving the interests of the private architect has resulted in the disunity which Astragal deplores.

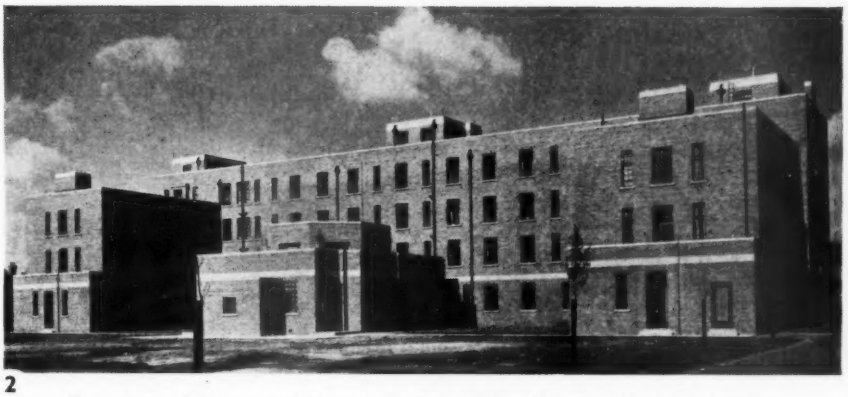
In the current issue of the JOURNAL you state in the leading article that it is an easy matter to prove that the A.A.S.T.A. policy is wrong, but you do not proceed to do so. I feel that you have criticised the policy of the A.A.S.T.A. too light-heartedly.

For several weeks now you have been asking the question, "Reserved for What?" And it is the A.A.S.T.A. alone who have pointed out the futility of such a question when there are such obvious tasks of adequate air-raid shelter, planned evacuation and essential civil building to be carried on. It is our duty to convince the Government that these things are of vital importance, instead of asking ourselves questions which pre-suppose the answer that the architectural profession is quite useless in war-time. MARJORIE TALL

EXTENSIONS, BOROUGH HOSPITAL, WARRINGTON

DESIGNED BY GEOFFREY OWEN AND J. W. BARROW (WILLIAM AND SEGAR OWEN)

1

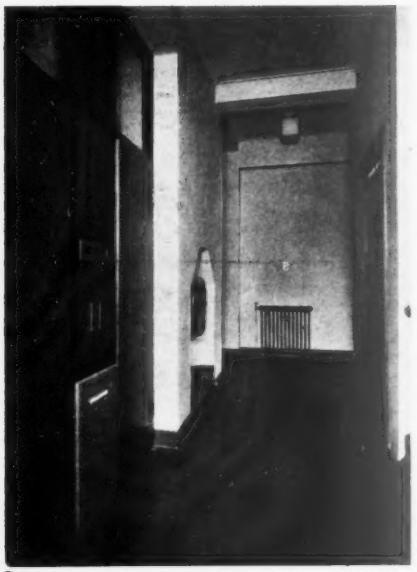


2

Two views of the nurses' home: 1, front to Lovely Lane: 2, rear elevation.

GENERAL AND SITE—This scheme of extensions at the Borough General Hospital at Warrington comprises a nurses' home, new ward block, clinics, steward's stores, kitchens and operating theatres, and reorganization of the existing maternity block. The extensions were recently opened by the Duchess of Kent. Construction and finishes for each new block are similar to that for the nurses' home, described overleaf.

COST—Total cost, £130,000. This sum includes £21,000 for the heating services of the extensions and the reorganization of those in the original hospital.



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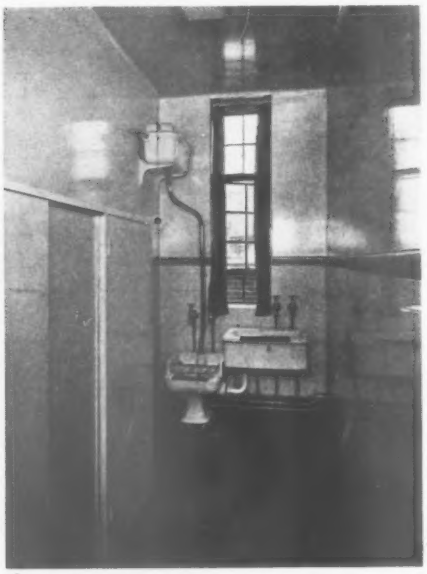
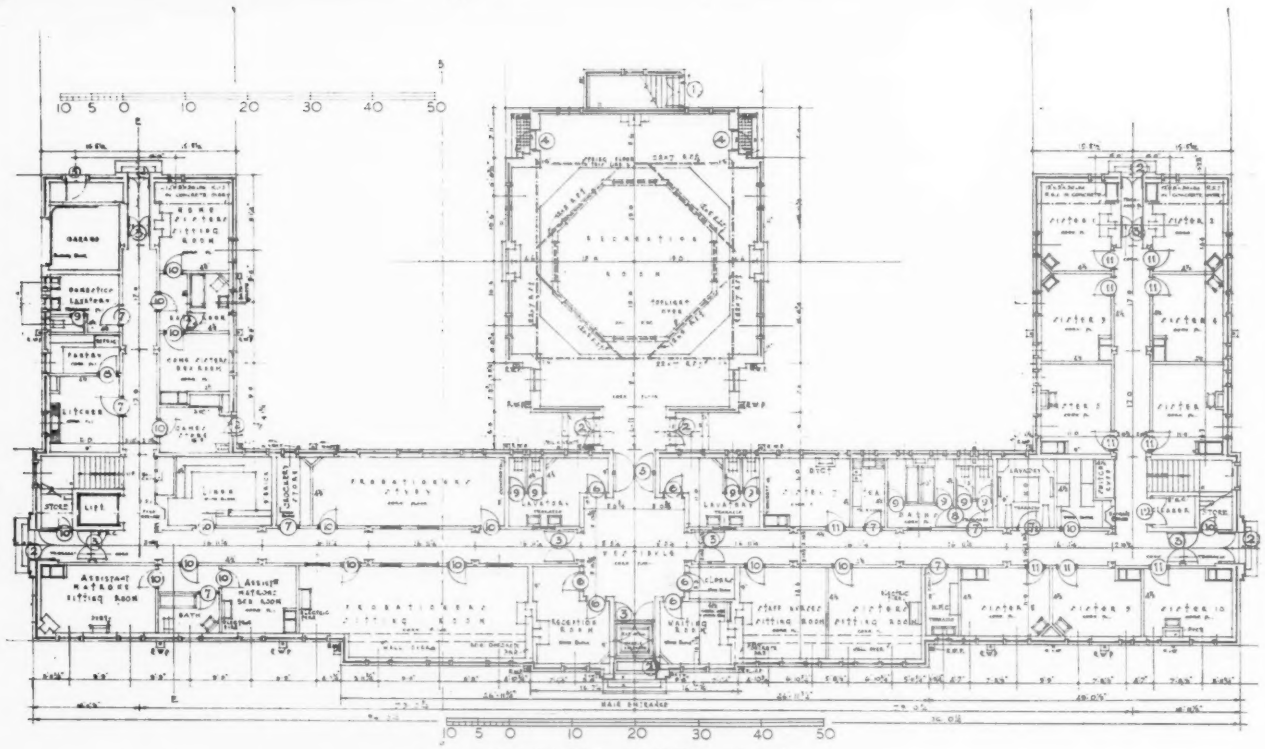


4

This four-storey block, with accommodation for 116 nurses, fronts Lovely Lane. Provision has been made for the addition of a further storey should increased accommodation become necessary. Foundations are of R.C. box beams. External walls are of R.C., 8-in. thick for the ground floor, 7 in. for the first, second and third floors. The fourth floor (when built) will be 6 in. thick. Walls are cast *in situ*, using sectional forms, and are lined with heraklith. Centre skeleton is of

NURSES' HOME



GROUND FLOOR PLAN

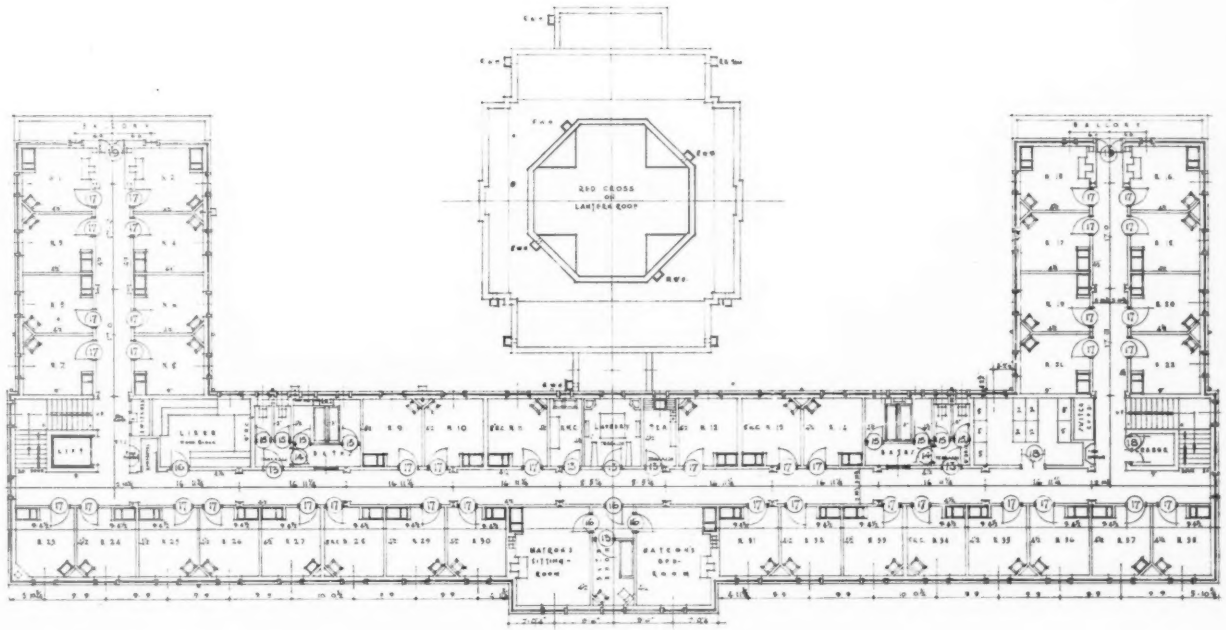
5

6

3 : Mail chute and recessed hydrant ; 4 : Typical H.M.C. ; 5 : Entrance vestibule ; 6 : Recreation room.

EXTENSIONS, BOROUGH GENERAL HOSPITAL, WARRINGTON • BY G.

structural steelwork and the floors of precast concrete joists covered with $\frac{3}{16}$-in. cork flooring and tiles to the skirtings. Elevations are faced with rustic bricks and reconstructed stone dressings. The main entrance leads into a teak-panelled vestibule, and leads to the entrance to the recreation room, which is arranged at the rear of the home, overlooking the lawns. Provision is made on the ground floor for probationers' study, probationers' sitting-room, nurses' and sisters' sitting-rooms and sisters' bedrooms, the home sister's and assistant matron's quarters and a small kitchen for occasional use. The first and second floors are similarly planned and consist of the main front block with two projecting wings. Each provides accommodation for 38 nurses and 2 sisters. The upper floor covers only the main block and provides accommodation for 22 nurses and 2 sisters. On all floors small ironing rooms, tea rooms, box rooms and linen rooms are provided. All bedrooms are provided with a lavatory basin and have hot and cold water services and built-in wardrobes. On the first and third floors telephone boxes are provided. A mail chute serves all floors. A spring floor is provided for dancing in the recreation room, and electrical points are arranged for the control of lighting during social functions, and for a cinematograph projector.

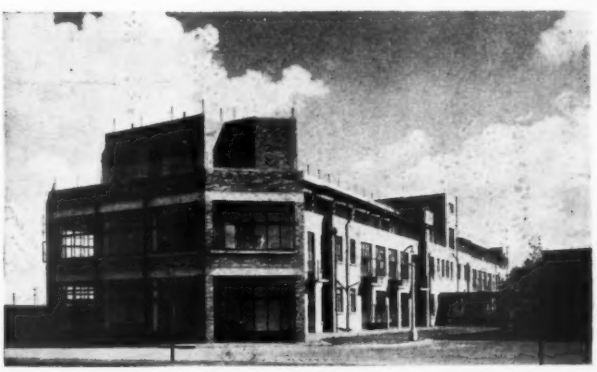


FIRST FLOOR PLAN

WARD BLOCK

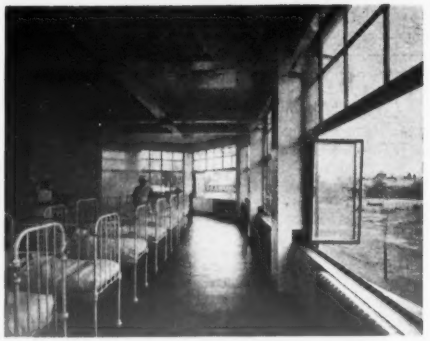
This block is three storeys in height and provides accommodation for 100 patients.

G. OWEN AND J. W. BARROW



7 *The ward block showing the sun rooms.*

8



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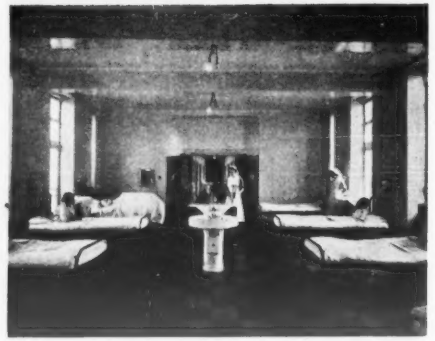

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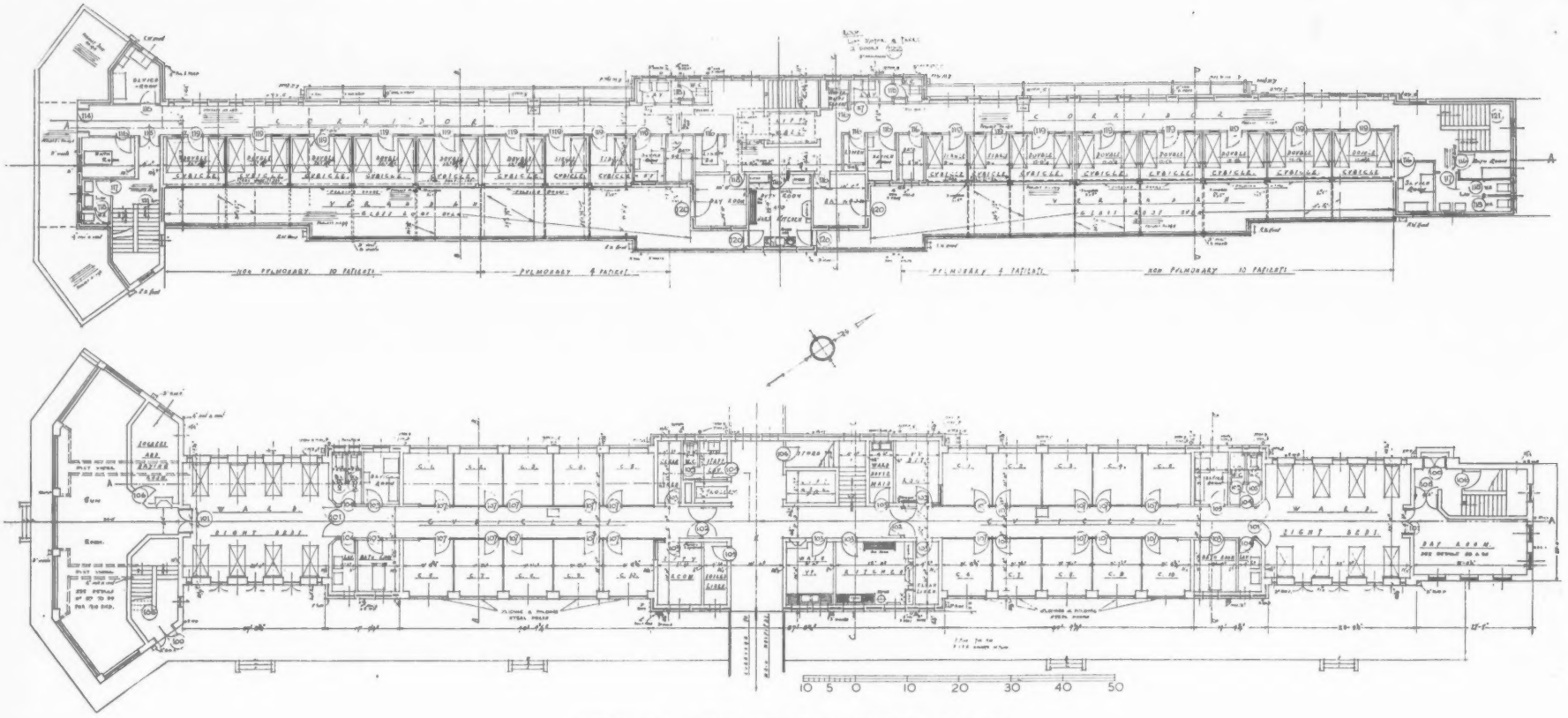
11

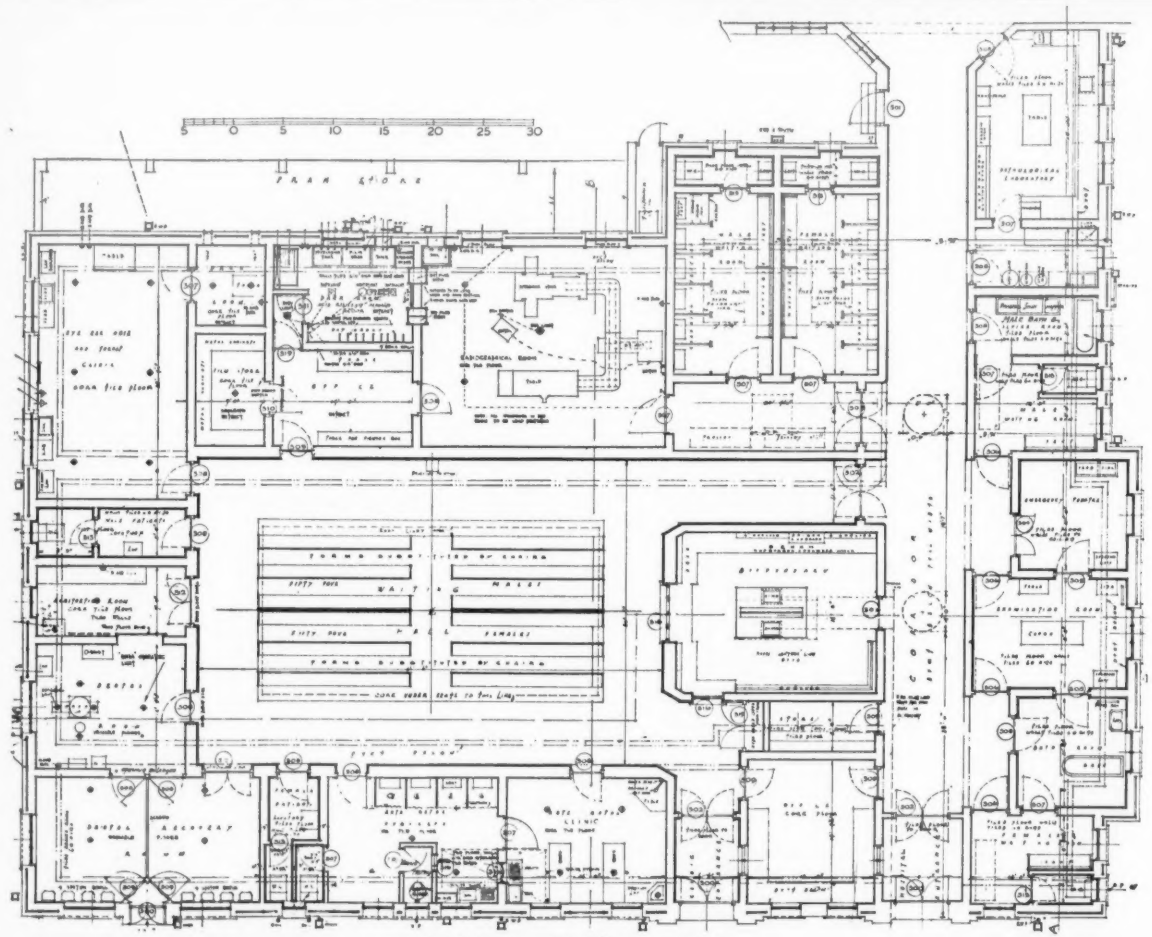
8 : Cubicles on the first floor ; 9 : Sun room on the first floor ; 10 : 8-bed ward ; 11 : double cubicle on the second floor.

WARD BLOCK



GROUND AND TYPICAL FLOOR PLANS

RECEPTION BLOCK



GROUND FLOOR PLAN

RECEPTION BLOCK

The central waiting hall seats 108 persons. Planned round this hall are the ante-natal clinics, dental clinics, eye, ear, nose and throat clinics and the radiographic department. The admission block of the Hospital proper is incorporated in this block.

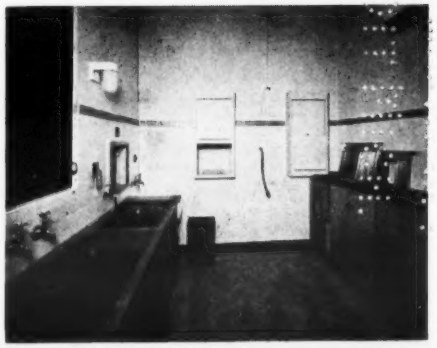
12, *Reception (right) and ward blocks ;* 13, *waiting hall ;* 14, *dental department :* 15 and 16, *radiographic department.*

12

13

14

15



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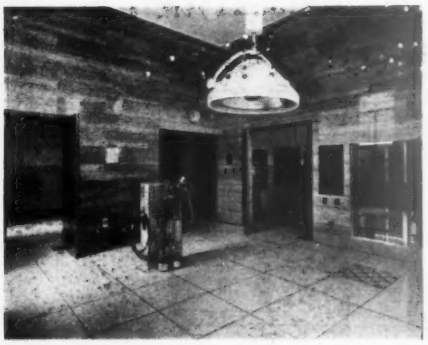

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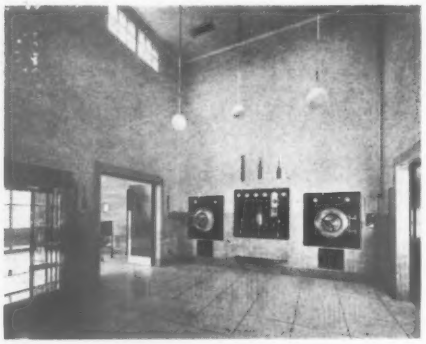
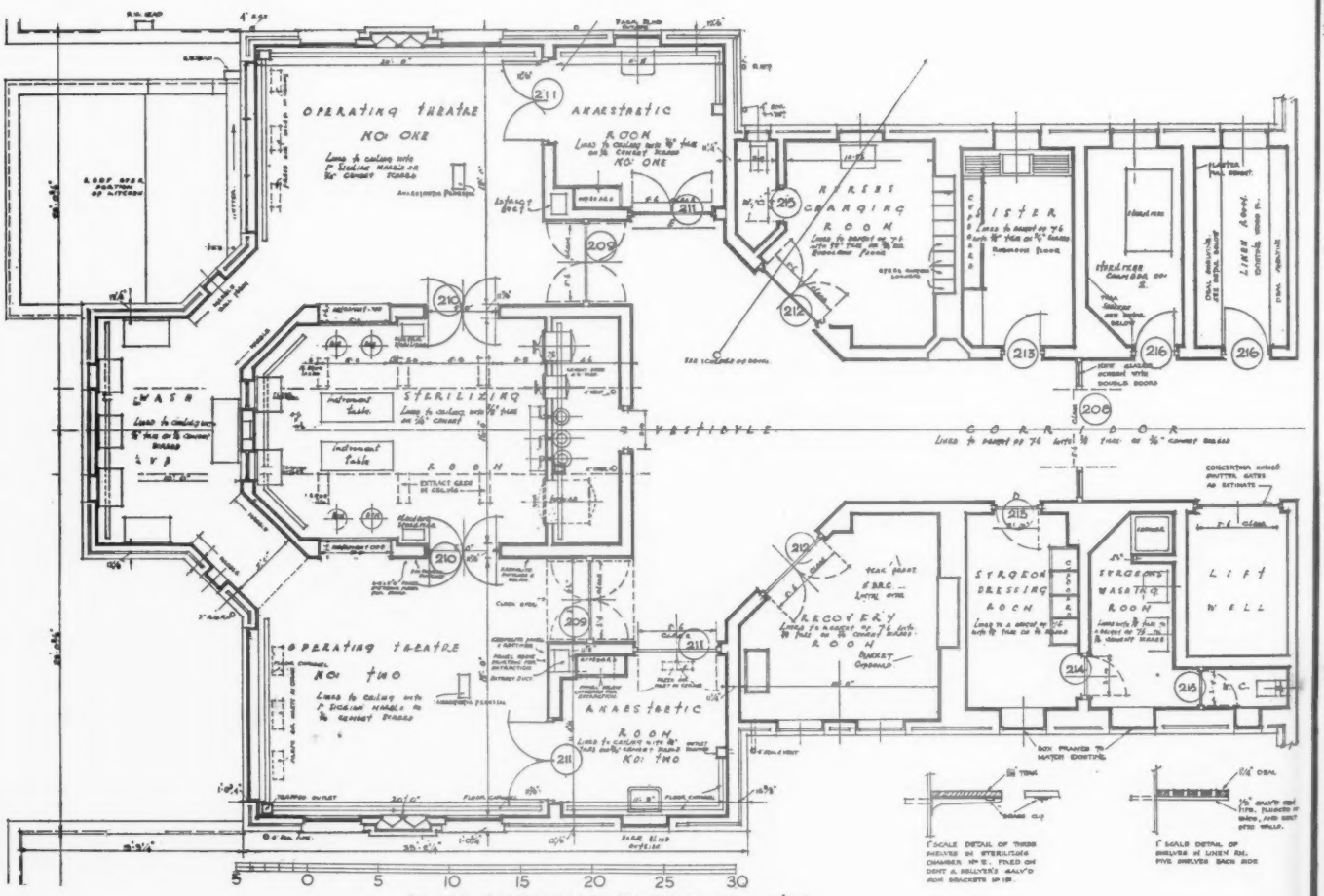


18

Immediately behind the existing administration block are the new kitchens and staff dining-rooms, together with rooms for the storage of meat, vegetables and milk. Above the kitchens is a suite consisting of twin operating theatres and anæsthetic rooms, doctors' wash-up, nurses' changing rooms, surgeons' dressing-room, and patients' recovering room. Separate systems of ventilation are provided to the kitchens below and the operating theatres above.

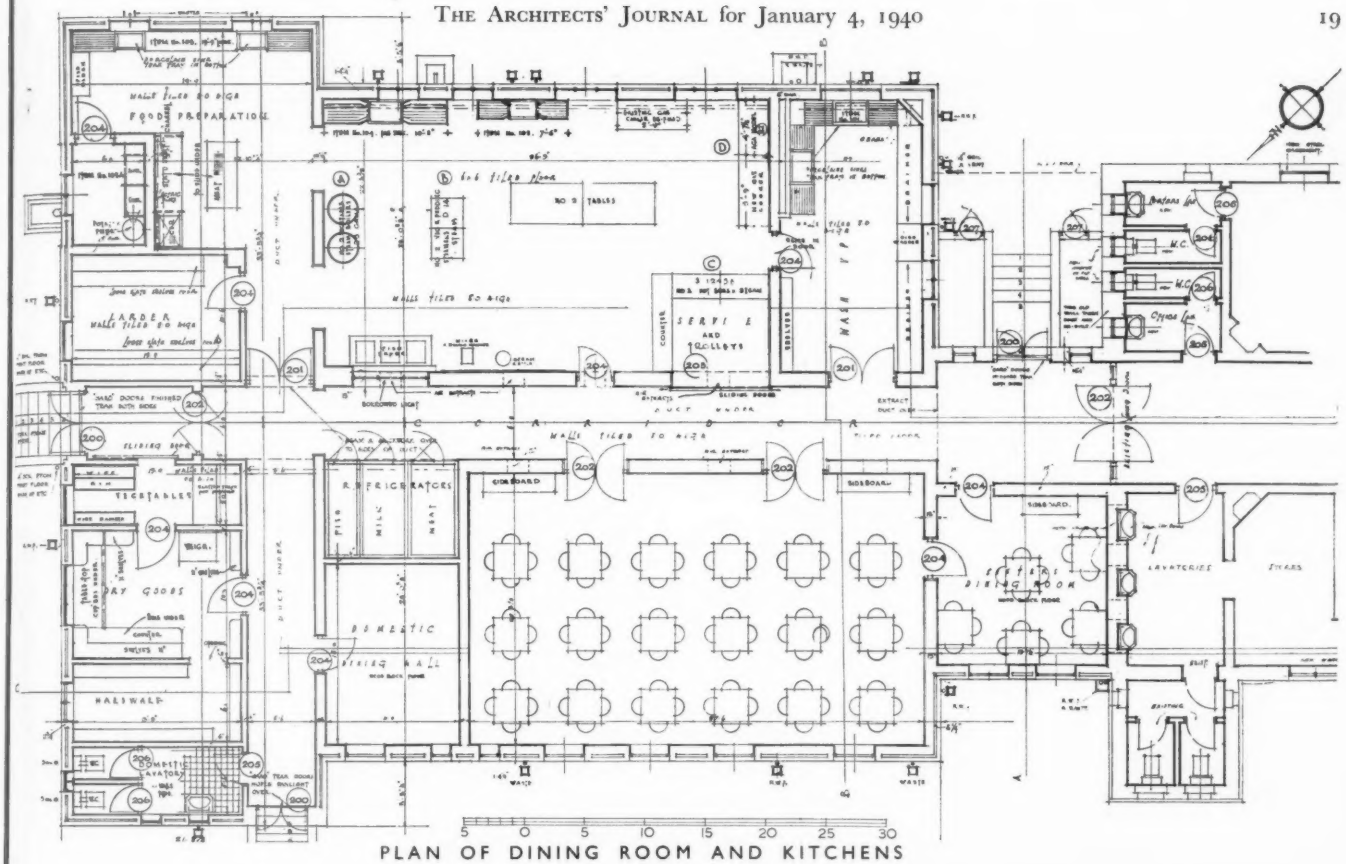


PLAN SHOWING THEATRES, ETC.

19

THEATRE AND KITCHEN BLOCK

EXTENSIONS, BOROUGH GENERAL HOSPITAL, WARRINGTON



PLAN OF DINING ROOM AND KITCHENS

17 : *Theatre, showing sterilizing and anæsthetic rooms ;* 18 : *sterilizing room ;* 19 : *a view of the theatres and kitchen block ;* 20 : *the kitchen ;* 21 : *wash-up department ;* 22 : *vegetable store—fittings were specially designed by the architects.*

20

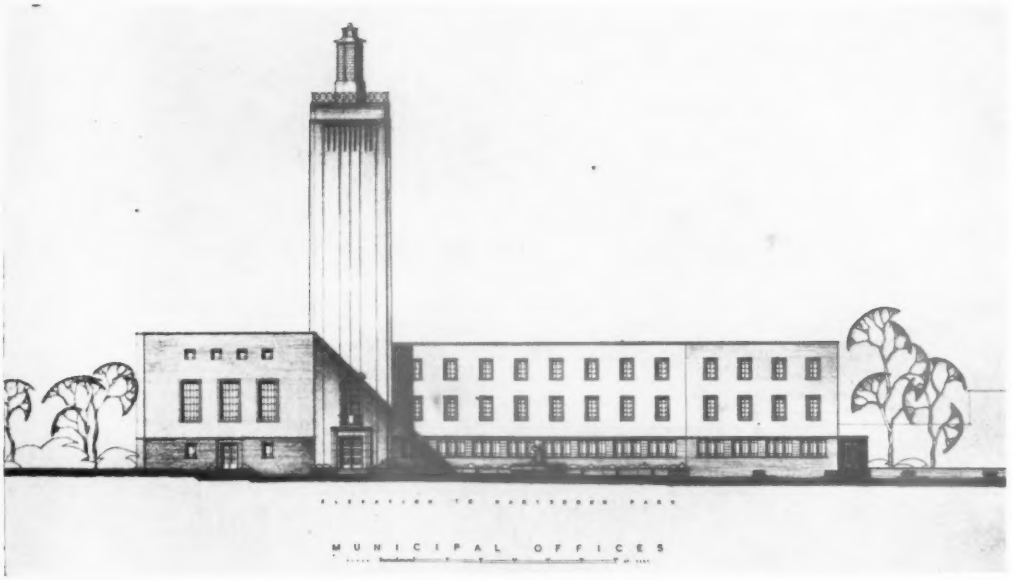
21

22

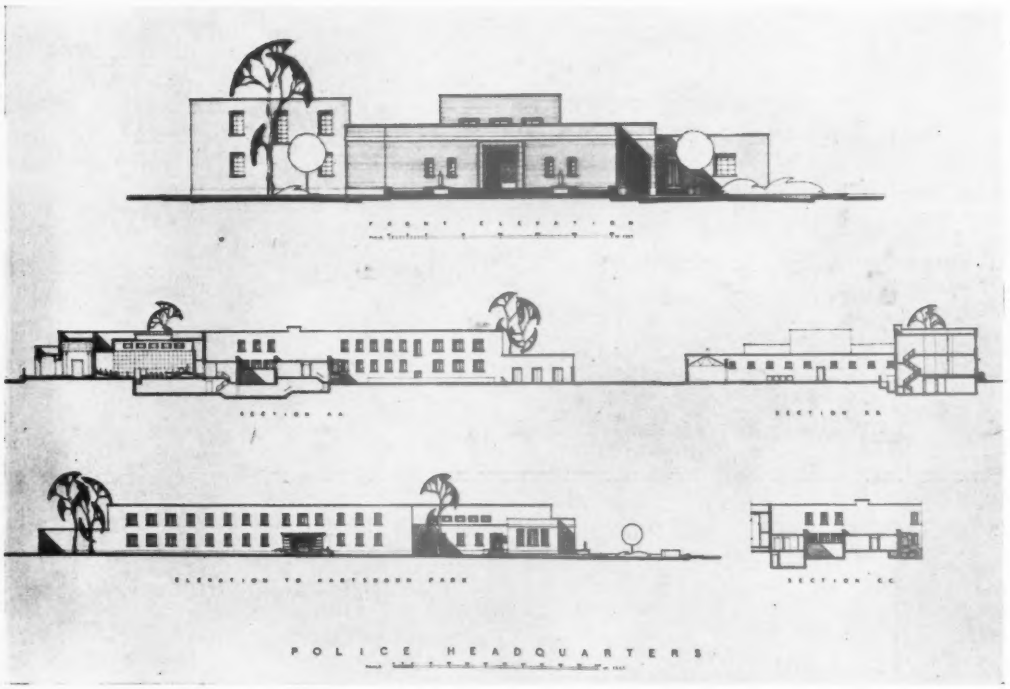
DESIGNED BY G. OWEN AND J. W. BARROW

COMPETITION FOR CIVIC CENTRE

BY LIONEL SMITH AND JAMES MELVIN



MUNICIPAL OFFICES



POLICE HEADQUARTERS

RESULT

Mr. A. F. B. Anderson, F.R.I.B.A., the assessor of the competition promoted by the Margate Corporation for a new civic centre, has made his award as follows :

Design placed 1st (£500) : Messrs. Lionel Smith and James Melvin, AA.R.I.B.A., 37b Connaught Street, W.2.

Design placed 2nd (£300) : Mr. J. C. Shepherd, F.R.I.B.A. (Scott, Shepherd and Breakwell), 11 Buckingham Street, W.C.2.

Design placed 3rd (£200) : Messrs. Vine and Vine, AA.R.I.B.A., 7 Southampton Place, Bloomsbury Square, W.C.2.

Commended (in order) : Sir John Brown, Henson and Ward, 83 St. Giles Street, Northampton ; and Mr. Wm. G. Sinning, A.R.I.B.A., 27, Queen Victoria Street, E.C.4.

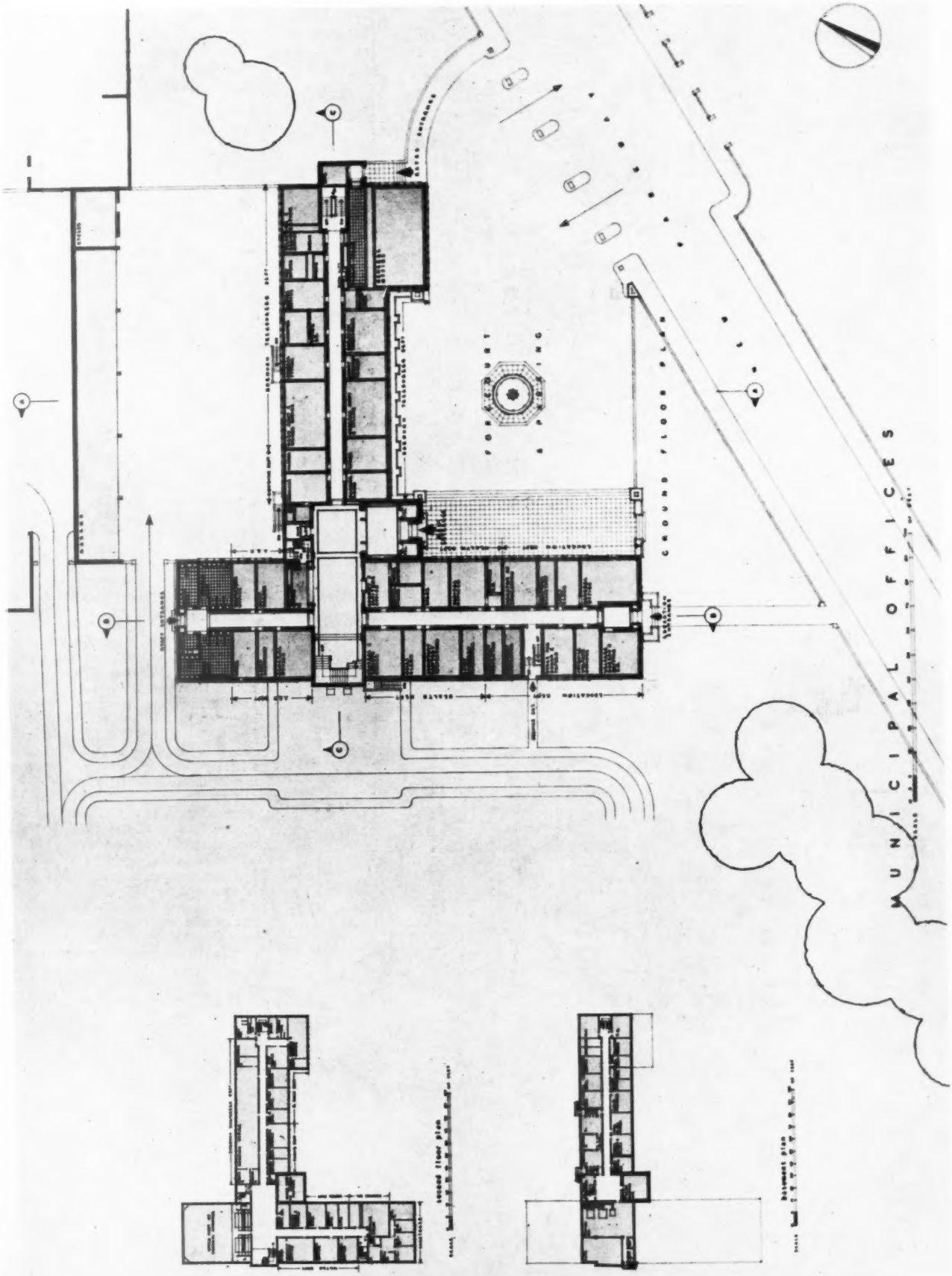
Extracts from the Assessor's Report

I wish to congratulate the Council on the result of the Competition. The number of designs submitted totalled twenty-three, and in view of the state of emergency which prevailed during the closing weeks of the competition this can be accounted a very satisfactory response. The designs generally reach a very high average of merit, and the draughtsmanship in most cases is particularly good. The premiated and commended designs all show very great ability and if none of the solutions can be described as outstanding, any of these would produce a Civic Centre of character and distinction. In making my award I have been guided by directness and simplicity in planning, the general character and workability of the scheme, and the possibilities which it presented of re-arrangement such as might be required by departmental extension. I have also paid due regard to the question of expenditure.

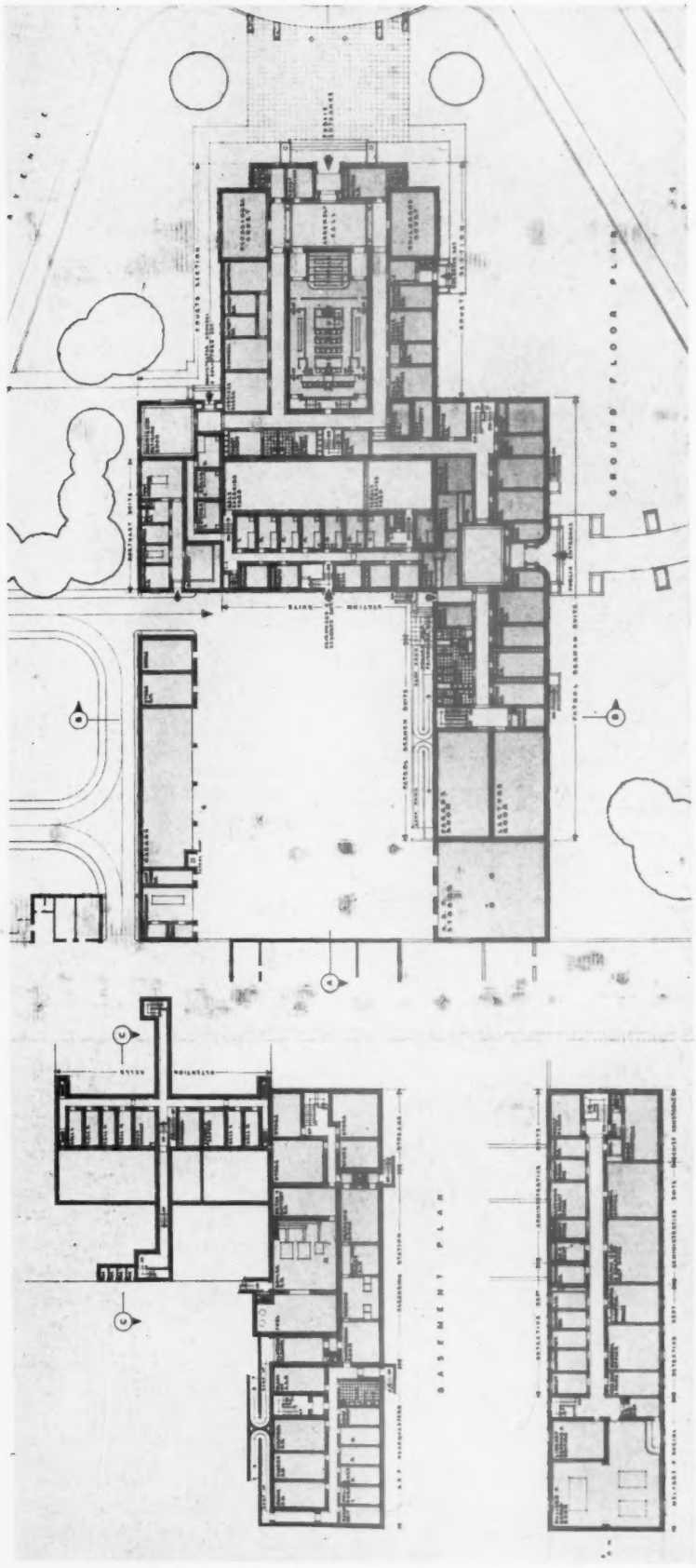
No. 13 (the winning design) is a simple, dignified and well-balanced scheme. The planning is direct and logically developed, and fulfils admirably the requirements laid down in the Conditions. The elevations, which have been treated very simply, have a pleasing character and good proportion.

This competitor makes full use of the extended site and has developed his layout by straightforward grouping of the different elements comprised in the scheme. This functional grouping gives a pleasantly indented outline to the buildings facing Hartsdown Park, the whole group dominated by the lofty square tower attached to the Municipal Offices. Each section of the scheme is fully self-contained and can be built independently of the other sections. The details of cubing and calculations of cost given in the report have been checked, and I am of the opinion that the estimate of cost, viz., £146,834, is based on cube prices that would cover the expenditure as laid down in the Conditions at the closing date of the Competition.

MARGATE: DESIGN PLACED FIRST



Plans of the Municipal Offices.



Plans of the Police Headquarters

TRADE NOTES

[*BY PHILIP SCHOLBERG*]

Door Furniture

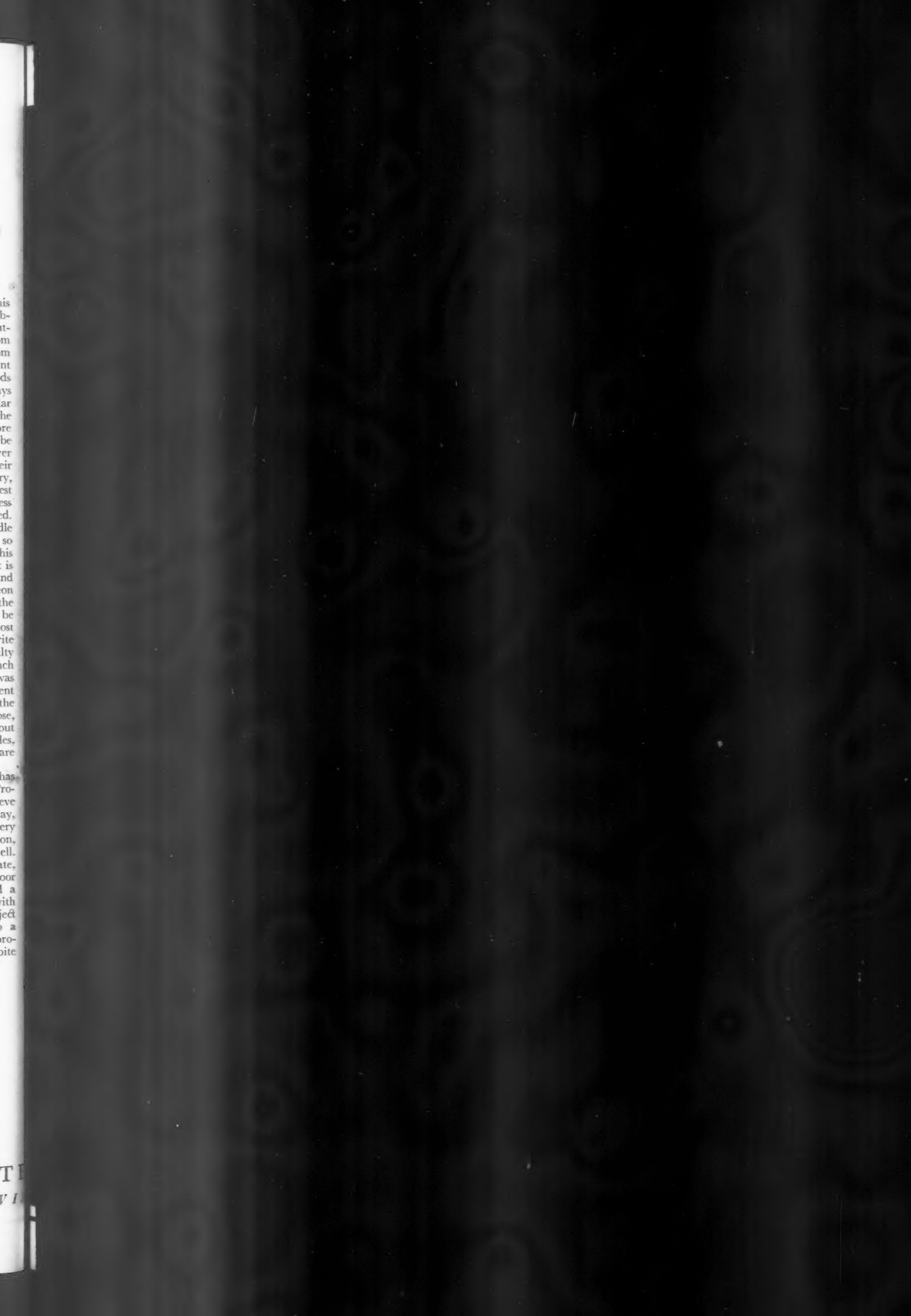
ONE would have thought that by this time the comparatively simple problem of fixing door handles and escutcheons would have been solved. But, from the various attempts which are made from time to time to evolve some different method, it is obvious that the usual methods are not all they should be. In the old days when doors had an ordinary circular knob, the problem was much easier, but the present lever handles put much more strain on their fixings, and can easily be torn off if they are roughly used. Lever handles which are retained only by their escutcheons are not really satisfactory, for with the ordinary lock, only the shortest of screws can be used in the small thickness of wood left after the door has been mortised. Some locks are made with the spindle hole in a projecting ear of the casing so that longer screws can be used, but this complicates the mortising slightly, and it is possibly better to have the handle and keyhole combined in a single escutcheon plate which will overlap the sides of the lock case and allow longer screws to be used. For the handles themselves most manufacturers have their own favourite fixing methods to get over the old difficulty of the grub screw and the holes at ¼-inch intervals in the spindle. This method was never really any good, for the adjustment given by it is not fine enough, and the handle is either too tight or too loose, added to which the grub screws work out and remove the skin from your knuckles, after which they fall on the floor and are lost.

A new method of handle fixing has recently been evolved by Designed Productions, Ltd., a new firm which I believe has at the back of it Mr. Eric Munday, whose lettering you see on almost every civilized stand at the Building Exhibition, and on plenty of permanent jobs as well. The section on page 23 is an adequate, but not complete, explanation. The door is mortised in the ordinary way, and a 1-inch diameter hole is bored axially with the spindle hole. The escutcheons project into this hole, which locates them to a certain extent, and they also have projecting lugs on their inner faces which bite

(*Continued on page* 25)

COMPETITION FOR CIVIC CENTRE, MARGATE

DESIGN PLACED FIRST: BY LIONEL SMITH AND JAMES MELVI



552.

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THE USE OF STEEL SECTIONS AS COLUMNS AND STRUTS:

Columns & struts can be carried out in a great variety of sections; examples of the groupings are shown on Sheet 11 of this series.

GROUP (3): round columns, ring type or solid section.

FIG. 1: Solid section.

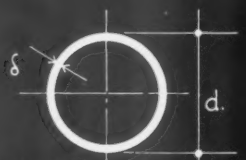
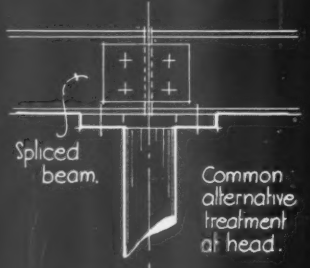


FIG. 2: Tubular section.



Continuous beam.

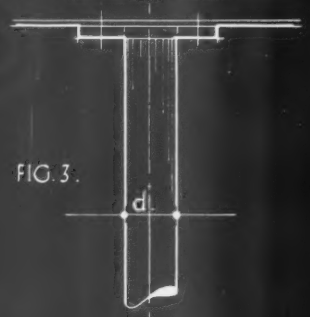


FIG. 3.

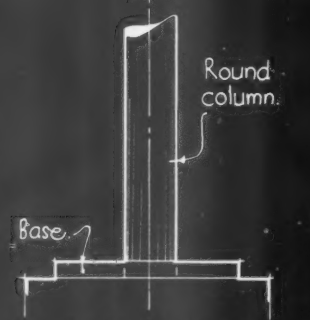


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TABLE GIVING EFFICIENCY FACTORS (e) FOR ROUND SOLID AND TUBULAR SECTIONS AS CENTRALLY LOADED COLUMNS (STRUTS).

Outside Dia. d, Ins.	Type of col., see *	LENGTH OF COLUMN OR STRUT IN FEET. 4.	4·5.	5.	5·5.	6.	6·5	7.	7·5	8.	8·5	9.	10.	12.	14.	16.
1.	S	0·18	·	·	·	·	·	·	·	·	·	·	·	·	·	·
	T	0·31	0·25	0·21	0·17	·	·	·	·	·	·	·	·	·	·	·
1½.	S	0·36	0·29	0·25	0·21	0·18	·	·	·	·	·	·	·	·	·	·
	T	0·56	0·47	0·40	0·35	0·30	0·26	0·23	0·20	0·18	·	·	·	·	·	·
2.	S	0·56	0·47	0·40	0·35	0·30	0·26	0·23	0·20	0·18	·	·	·	·	·	·
	T	0·75	0·69	0·62	0·56	0·49	0·44	0·39	0·35	0·31	0·28	0·25	0·21	·	·	·
2½.	S	0·70	0·63	0·56	0·49	0·43	0·38	0·34	0·30	0·26	0·24	0·21	0·18	·	·	·
	T	0·84	0·80	0·74	0·69	0·63	0·58	0·53	0·47	0·43	0·39	0·37	0·31	0·22	0·17	·
3.	S	0·80	0·74	0·68	0·62	0·56	0·50	0·44	0·40	0·37	0·33	0·30	0·25	0·18	·	·
	T	0·89	0·86	0·83	0·79	0·75	0·71	0·66	0·61	0·57	0·52	0·48	0·41	0·31	0·24	·
3½.	S	0·85	0·81	0·77	0·72	0·67	0·61	0·56	0·51	0·46	0·42	0·39	0·34	0·24	0·18	·
	T	0·92	0·90	0·87	0·84	0·81	0·78	0·74	0·71	0·67	0·63	0·59	0·52	0·40	0·31	0·19
4.	S	0·88	0·85	0·82	0·78	0·74	0·70	0·65	0·60	0·56	0·51	0·47	0·40	0·30	0·23	·
	T	0·94	0·92	0·91	0·88	0·86	0·84	0·82	0·79	0·75	0·72	0·70	0·63	0·50	0·39	0·26
4½.	S	0·91	0·88	0·86	0·83	0·80	0·76	0·72	0·68	0·64	0·60	0·56	0·49	0·37	0·28	0·18
	T	0·95	0·94	0·92	0·90	0·88	0·86	0·84	0·82	0·80	0·77	0·74	0·68	0·56	0·44	0·30
5.	S	0·93	0·91	0·88	0·86	0·83	0·81	0·77	0·74	0·70	0·67	0·63	0·56	0·43	0·34	0·21
	T	0·97	0·96	0·94	0·93	0·92	0·90	0·88	0·87	0·85	0·83	0·81	0·77	0·67	0·56	0·39
5½.	S	0·94	0·92	0·91	0·88	0·86	0·84	0·82	0·79	0·75	0·72	0·70	0·63	0·50	0·39	0·26
	T	0·98	0·96	0·95	0·94	0·93	0·91	0·89	0·88	0·86	0·85	0·83	0·79	0·70	0·60	0·43
6.	S	0·95	0·94	0·92	0·90	0·88	0·86	0·84	0·82	0·80	0·77	0·74	0·68	0·56	0·44	0·30
	T	0·99	0·97	0·96	0·95	0·94	0·92	0·91	0·90	0·89	0·88	0·86	0·83	0·75	0·66	0·48
7.	S	0·97	0·96	0·94	0·93	0·92	0·90	0·88	0·87	0·85	0·83	0·81	0·77	0·67	0·56	0·39
	T	1·00	0·99	0·98	0·97	0·96	0·95	0·94	0·93	0·92	0·91	0·89	0·87	0·82	0·75	0·59
8.	S	0·99	0·97	0·96	0·95	0·94	0·92	0·91	0·90	0·88	0·87	0·85	0·82	0·74	0·65	0·47
	T	1·00	1·00	0·99	0·99	0·98	0·97	0·96	0·95	0·94	0·93	0·92	0·90	0·86	0·81	0·68

* S MEANS SOLID COLUMN, T MEANS TUBULAR COLUMN.

The values given to the right of or above the zig-zag line may be applied to secondary compressive members. They should not be applied to main structural columns or struts, for which the values lie to the left of the zig-zag line. The criterion is a slenderness ratio of 150.

THE ARCHITECTS' JOURNAL
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INFORMATION SHEET

• 773 •

STRUCTURAL STEELWORK

Subject : Economical Column Sections, 5

General :

This series of Sheets on steel construction is not intended to cover the whole field of engineering design in steel, but to deal with those general principles governing economical design which affect or are affected by the general planning of the building. It also deals with a number of details of steel construction which have an important effect upon the design of the steelwork.

Both principles and details are considered in relation to the adjoining concrete or masonry construction, and are intended to serve in the preliminary design of a building, so that a maximum economy may be obtained in the design of the steel framing.

This Sheet is the fifteenth of the series, and sets out in tabular form the comparative economic efficiencies of centrally loaded columns or struts composed of round solid and tubular steel sections.

Round Columns :

Round columns may be of two different types—they may be either solid as shown in Figure 1, or tubular as shown in Figure 2. The application of the solid type permits the smallest possible diameter, and the application of the tubular type necessitates a larger diameter but more economical section.

Use :

Round columns are of architectural value, but the connections are difficult, and they will not often be used for multi-storey buildings. They cannot take large bending moments and are mostly used for central columns in single storey buildings, with either a continuous beam or a splice on top, as shown in Figure 3.

Radius of Gyration :

The radius of gyration of a solid section is $r=\frac{d}{4}$, where d = the diameter of the column.

The radius of gyration of a tubular section is $r = \frac{1}{4}\sqrt{2d^2 - 4d\,\delta + 4\delta^2}$ where δ = the thickness of the tube. If this thickness is small, the radius of gyration can be found from the approximation formula, $r=0{\cdot}354\,(d-\delta)$.

Loading and Buckling :

See formula and clauses on the back of Sheet No. 11 of this series.

Efficiency Coefficient :

For general clauses, see back of Sheet No. 11 of this series. In the table on the front of this Sheet, the efficiency coefficients are given for both solid and tubular struts from 1 in. to 8 ins. diameter, and for various buckling lengths. Where the factor is less than 0·28, the struts may be used for secondary members only. This is indicated on the table by the black dividing line.

The efficiency coefficient of tubular struts in fact varies somewhat with the material thickness, but with the usually small thickness the variation will be very slight. The figures have been worked out for the thickness $\delta=\frac{d}{16}$. The efficiency coefficient varies between 1·00 and 0·17.

Previous Sheets :

Previous Sheets of this series dealing with structural steelwork are Nos. 729, 733, 736, 737, 741, 745, 751, 755, 759, 763, 765, 769, 770 and 772.

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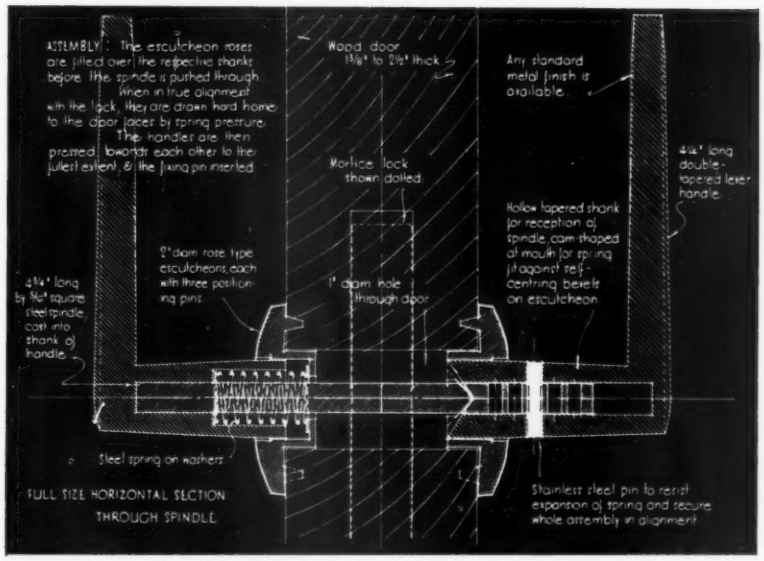
(*Continued from page 22*)

into the face of the door and prevent them turning when the handles are turned. One of the handles has the spindle cast with it, and is also recessed at the inner end of the shank to take the coil spring. The escutcheon on the opposite side of the door has bevelled bushes inside it for centring the handles, and the handle on this side has a V-shaped shank, which rides up on the bevelled bush when the handles are turned, and so compresses the spring. To fit the handles, the escutcheons are slipped over the shanks of the handles and the spindle is pushed through the door, and a stainless steel pin is inserted in it through the opposite handle. Although this would at first glance seem to have the disadvantages of the older type with grub screw fixing, in practice this is not so, for the spring holds the handles firm. The escutcheons are also pushed firmly against the door when the pin is fitted, and the lugs bite into the surface of the wood.

A certain amount of care will be necessary in fitting, but there should be a considerable saving in time over the older methods, and the handles themselves are reasonably cheap as good-class handles go, 7s. 6d. to 10s. 6d. a pair, according to finish. There is one other small point to which the manufacturers do not, so far as I know, refer. On opening any door, one handle is always pushed and the other is pulled; I would suggest that, for smoothest working, the spring should be fitted on the pushing side, and that the pull should be on the bevels. Either way, it doesn't matter very much, but it is perhaps worth thinking about. Information Sheet 753 (August 10 of this year) gives all the information about prices and sizes.—(*Designed Productions, Ltd., Queen's House, Leicester Square, London, W.C.2.*)

Industrial Lighting Fittings

A new list from the G.E.C. covers industrial lighting fittings of all kinds, from straight-forward reflectors to the more elaborate waterproof and flameproof fittings. Industrial buildings vary so much in layout that the problem of lighting is not always easy to solve, hence the necessity for a large number of fittings for different spacings and mounting heights, not to mention the more recent mercury and sodium vapour lamps which, although giving considerably more lumens per watt, have problems of their own not only in reflector shapes, but in their blending with tungsten lamps to give a light approximating to daylight.—(*The General Electric Company, Ltd., Magnet House, Kingsway, London, W.C.2.*)



Section through door described in Trade Notes.

THE BUILDINGS ILLUSTRATED

BOROUGH GENERAL HOSPITAL, WARRINGTON (pages 13-19). Architects: G. Owen and J. W. Barrow. General contractors, J. Dolan and Sons, Ltd. Specialists: Quantity surveyor, W. T. Davenport, F.S.I., F.I.ARB. Consulting engineers (heating and hot water services), E. G. Phillips, Son and Norfolk; Technical assistant, E. W. Ward. Electrical installation, Borough Electrical Engineer, F. V. L. Mathias, M.I.E.E.; Technical Assistant, A. E. Marchant. Clerk of Works, C. Harrison. Clerk of Works (heating and hot water services), C. Hackney. Sub-contractors: A. Greenhalgh and Sons, Ltd., floor and wall tiling, and fireplaces; Henry Hope and Sons, Ltd., steel partitions, steel windows, saucer lights and toplights, electric and cable window gearing; Pearson and Knowles Engineering Co., Ltd., structural steelwork; Shanks & Co., Ltd., sanitary fittings; Parker, Winder and Achurch, Ltd., locks and hardware, steel clothes lockers, etc.; Caldwells, Ltd., heating, steel sliding doors, milk separator, ventilation grilles, gates and railings; W. Sudlow, fibrous plasterwork; W. Winstanley & Co., Ltd., plumbing and painting; C. Seagle, asphalt work; Speed's, electrical installation; W. G. Kaleyards, Ltd., verandah roof glazing; R. W. Brooke & Co., Ltd., wood block flooring; Armstrong Cork Co., Ltd., cork flooring; Drytone Joinery, Ltd., flush doors; J. and H. Patteson, Ltd., marble work, operating theatres; J. Wood, foundation stone and sculpture; Moorlands Engineering Co., Ltd., manhole covers; James Gibbons, Ltd., poison cupboards and blanket cupboard; W. J. Furse, Ltd., lightning conductors; Theodore Hamblin, Ltd., sight-testing equipment; Herbert Terry, Ltd., trolley model lamp; S. S. White Co. of Great Britain, Ltd., dental equipment; Carl Zeiss, Ltd., operating theatre lamps; Mottershead & Co., Ltd., X-ray apparatus and X-ray dark blinds; Flexo Plywood Industries, Ltd., partitions to cubicles; General Electric Co., Ltd., portable refrigerators and electric fittings; Kennedy Clarke & Co., Ltd., built-in refrigerators; Marryat and Scott, Ltd., electric lifts; Russons, Ltd., radio aerial, earth system, gramophone record-playing desk and pick-up; Henry Wilson, Ltd., X-ray viewing boxes; R. White and Sons, Ltd., loading dock equipment; Hill-Smith, Ltd., radio equipment; Radiation Ltd., 1 double-oven Chester range, 2 steam-heated hot-closets, 2 No. 365 New World gas cookers; Aveling Barford, Ltd., steam vegetable pans; J. Scott & Co., Ltd., vegetable steamers, steam kettle and geysers; Sumerling & Co., Ltd., Esse cooker, potato peeler and dish washer; Avamore Engineering Co., Ltd., dough machine; Mabbott & Co., Ltd., fish frying range; C. F. Thackray, Ltd., electric sterilizers; Coxeter and Sons, Ltd., anæsthetic equipment; Sutton Bros., linoleum flooring; Semtex, Ltd., Semtex plastic non-slip treads; Ilford, Ltd., Ilford drying cabinet; R. Seddon and Sons, Ltd., copperlite glazing; Wm. Rose Hose Co., Ltd., fire appliances; Dent and Hellyer, Ltd., lactivator; B.R.C. Engineering Co., Ltd., weldmesh fencing; Manlove, Alliott & Co., Ltd., milk bottle sterilizer; Steffanutti Terrazzo, Ltd., terrazzo paving; Bromsgrove Guild, Ltd., lamps to gate piers; Berry Electric, Ltd., Mistoberry fires; J. Stubbs, Ltd., fireplaces (marble); Fletcher, Russell & Co., Ltd., gas range; J. Riley, Ltd., diathermy, cautery and light apparatus; Pollard's, Ruboleum flooring; Hodgkinson, Ltd., mechanical stokers; Davidson, Ltd., induced draught fan, fans (ventilating); Senior Economisers, Ltd., economizer; C. and J. Weir, boiler feed pumps; Butterfields, tanks; Cambridge Instrument Co., CO_2. instrument; Lumbys, Ltd., calorifiers; Beeston Boiler Co., radiators; Hopkinson, Ltd., steam stop valves; Stewarts and Lloyds, Ltd., tubes; Le Bas Tube Co., malleable fittings; Versil, Ltd., heat insulation; Chloride, Ltd., emergency lighting; British Insulated Cables, Ltd., cables; Walsall Conduit, Ltd., conduit; English Electric Co., Ltd., fuse gear; Ascog, Ltd., electric fittings; Automatic Electric Co., Ltd., internal automatic telephones; Gent's, Leicester, signalling and fire alarm system; J. A. Crabtree, Ltd., and J. H. Tucker & Co., Ltd., switches and switch sockets; Synchromatic Time Recording Co., clocks; Kodak, Ltd., dark room equipment; Wardle Engineering Co., Ltd., electric fittings.

OBITUARY

F. B. PARSONS

We regret to record the death of Mr. Frank Bernard Parsons, F.R.I.B.A., principal of the firm of Gateley and Parsons, Colmore Row, Birmingham, at the age of 79.

S. DAWE

We regret to record the death of Mr. Sydney Dawe. Aged 71, Mr. Dawe was principal of the Watford firm of architects and surveyors, Messrs. Dawe and Carter. He was educated at "Prospect House," Tring, and in 1884 was articled to Mr. William Huckvale, of Tring. In 1896 he became an Associate of the R.I.B.A., and in the same year became an assistant to Mr. C. P. Ayres, the Watford architect. In 1936 he was elected a Fellow of the R.I.B.A.

In 1904 he established a practice at Rickmansworth, and in 1926 extended his business to Watford. Ten years later he took into partnership Mr. Peter G. J. and Mr. Richard J. Carter.

Mr. Dawe was responsible for the design of many prominent public buildings in the Watford district, notably schools, of which the most recent example is the Watford Modern School, now in course of erection.

AN ARCHITECT'S WILL

Mr. Thomas Butterworth, of Blackpool,

architect and surveyor, left £16,487 (net personalty, £16,336).

GENERAL NEWS

PREVENTORIUM, SOUTH AFRICA

Following is the result of the competition for the Tuberculosis Preventorium to be erected at Queenstown, South Africa :

Design placed first : Owen Eaton and Merrifield (per Charles Merrifield, A.R.I.B.A.)

Design placed second : Owen Eaton and Merrifield (per F. Owen Eaton, F.R.I.B.A.).

Design placed third : Farrow and Stocks, F/A.R.I.B.A.

This competition was assessed by the Council of the Natal Provincial Institute of Architects.

UNITED ARTISTS' EXHIBITION

This Exhibition, opened today, has been organized by the Royal Academy in co-operation with 24 other Art Societies whose members, and a number of artists recommended by them, have been invited to send works for sale in aid of the Lord Mayor's Red Cross and St. John Fund and the Artists' General Benevolent Institution. Half of the price paid in each sale will be divided equally between these two charitable organizations.

A generous response has been made by about 1,270 of the artists invited, and the Committee, representing all tendencies in British art of today, have endeavoured to place as many of the works offered as the space allowed, without preference for any particular style or fashion, and with the sole object of making an attractive and interesting exhibition.

IRISH ECCLESIASTICAL ARCHITECTURE

At a conference of architects on the questions of an Irish ecclesiastical architecture and of a national style in Dublin, Mr. J. J. Robinson supported the principle of full latitude for individual designers, without which, he said, there could be no progress in art. In Ireland there was no doubt that architectural design was undergoing change, and departing more and more from the conventional. Mr. V. O'Gorman said that a national style was not of national importance, nor was it desirable, in designing buildings for the universal church. Irish architecture today was approached from the wrong end. It needed re-orientation, and to have regard to the question of dogma rather than the question of style.

BEST BUILDING IN WEST RIDING

The West Yorkshire Society of Architects' bronze medal for the best building to have been erected in the West Riding in the past three years has been awarded to Messrs. Gribbon, Foggitt and Brown. The building which has gained the firm the award is St. Augustine's Catholic Church at Harehills, which was opened in December, 1936.

APPOINTMENT

Mr. John Williamson, Deputy Architect to the Glamorgan County Council, has been elected county architect to succeed Mr. James Nash, who is retiring.

Mr. Williamson has held posts at Newcastle-on-Tyne and Birkenhead. Appointed chief assistant in Glamorgan in 1912, he became deputy architect in 1932.

BUILDING CENTRE'S NEW CHAIRMAN

Sir Giles Gilbert Scott, R.A., has joined the board of directors of the Building Centre and has become the chairman in the place of the late Mr. Maurice Webb. Others who have also joined the board are Sir Alfred Hurst, K.B.E., C.B., and Messrs. Oswald P. Milne, F.R.I.B.A., Thomas S. Tait, F.R.I.B.A., and D. L. Bridgwater, A.R.I.B.A.

CHANGE OF ADDRESS

Mr. J. H. Langtry-Langton, A.I.A.S., M.INST.R.A., has moved his office to Dean House, Piccadilly, Bradford, where he would be pleased to receive manufacturers' catalogues, etc.

DIARY

We have received from Messrs. G. A. Harvey & Co. (London), Ltd., of Woolwich Road, S.E.7, a copy of their "Harco" pocket diary for 1940. It measures 5½ in. deep and 3 in. wide, is bound in morocco, and also contains much technical information concerning the metal industries, including their own well-known products.

MANCHESTER SOCIETY OF ARCHITECTS

In the second of the monthly lunch-hour talks arranged by the Society in place of its regular evening meetings Mr. F. L. Halliday spoke on "Post-war planning, its problems and its possibilities." Mr. Halliday exposed the inadequacies of the planning Acts now in force and showed that the necessary progress in this direction could not be made without greater co-ordination, national control of policy by a Ministry of Planning or of National Development, and a readiness on the part of all concerned to tackle the problems of land values, individual ownership rights, and compensation, perhaps by the regional pooling of ownership.

MANUFACTURERS' ITEM

Messrs. Rubery, Owen & Co., Ltd., have just issued a four-page leaflet of their steel equipment for offices and works. Copies of the leaflet are obtainable on application to the firm at Imperial Buildings, 56 Kingsway, W.C., or at their Birmingham and Coventry offices.

TIMBER RESEARCH

The steadily increasing interest taken in timber research by industry is clearly indicated in the Annual Report of the Forest Products Research Board for 1938, issued on Monday last by the Department of Scientific and Industrial Research (published H.M. Stationery Office, 1s. 6d. net).

The enquiries dealt with by the Forest Products Research Laboratory were more numerous than in any previous year and covered practically every aspect of the subject. About half were concerned with the identification of timber, in some cases information being required in order to obtain supplies of a particular grade of timber and in others to establish the identity of a timber offered under an unfamiliar trade name. Nearly 700 enquiries were related to problems of seasoning and wood bending. These included requests for tests to determine how the hygroscopicity of wood is affected by fire-proofing treatments, and enquiries about the effect of exposure to damp conditions on the subsequent tendency of veneers to lift and blister, the influence of moisture content changes on block boarding, the behaviour of wood block flooring when laid in asphalt, the kiln-drying of maple shoe-last blocks, and the kiln drying of beech brush-back blanks.

Another large group of enquiries concerned the strength of timber, the properties of plywoods, glues, etc., and problems involved in wood-working and wood-cutting. In this last section the subjects dealt with included : the causes and possible remedies for mechanical failure of saws, cutter heads, etc. ; factors affecting the efficiency and finish in various machining operations ; mathematical data relating to the stresses acting in saws ; comparative costs of production with use of steam and electrical power ; utilization of wood waste and design of plant for this purpose ; modifications to cutting conditions necessary to obtain improved results in the working of a number of timbers ; design of tools and machines for special purposes ; specifications for saw teeth, cutting angles and speeds for particular species of timber ; power requirements in various operations, and a variety of other matters.

Other problems referred to the Laboratory included the decay of timber in buildings as the result of fungus attack and the occurrence of mould or stain, wood preservation and fire-proofing treatments, and the preservation of timber for National Defence purposes. Another group of nearly 700 enquiries concerned insect damage to timber — the chief culprits being the Common Furniture Beetle and the Longhorn Beetle. In addition, 22 inspections were carried out, mainly for architects and church authorities, about half of these being made on account of damage caused by Death-Watch Beetles.

A good deal of work was carried out during the year on the production of charcoal in portable steel kilns. The increasing use of charcoal for various industrial purposes, particularly in the manufacture of rayon, has demonstrated, the Report states, the extent to which this country is dependent on foreign supplies. Hitherto too great a percentage of volatile matter in the charcoal has been the chief objection to charcoal made in portable kilns, but an experimental kiln has now been designed and constructed which goes far in removing this objection. Charcoal produced by certain burnings has been pronounced by a leading firm of rayon

(*Continued on page xvi*).

(*Continued from page 26*)

manufacturers, who have given financial support to the investigation, to be equal to the best obtainable from any source. Close touch has also been maintained with developments in the use of wood and charcoal as alternative fuels for motor vehicles.

Further investigations were made during the year into methods of treating timber to prevent contraction or swelling due to changes in the amount of moisture in it resulting from variations in atmospheric conditions. New substances, the Report states, which appeared to offer possibilities in this direction, have been tested, but so far no material has shown such promise as sorbitol—a near relation of the sugar family. Soaking in a solution of sorbitol was found to be an effective method of treatment for oak veneers, and was repeated using green beech and oak boards ½ in. and 1 in. thick respectively. The experiments on the sorbitol-treated beech boards have been completed, and it was found that the movement was appreciably reduced, provided that a fairly high concentration (15–20 per cent. by weight) of sorbitol was present. Experiments with oak boards are sufficiently far advanced to demonstrate that the effects are superior to those obtained in beech. The presence of about 20–25 per cent. of sorbitol (by weight) reduces the movement by 40–50 per cent.

Frequent enquiries, the Report continues, are received concerning the rate at which dry timber will absorb moisture if stored in a damp place. The problem is of immediate application in the case of new buildings, and is sometimes not without importance where repairs and alterations are being made in museums and workshops in which valuable decorative woodwork is in storage. Results are given of tests on the absorption rates of oak, mahogany, teak, red deal, white deal and British Columbian pine.

The Report points out that when dry timber is stored for long periods, or alternatively when air-dried timber is to be further seasoned to make it suitable for indoor use, it is very desirable that the storage conditions should correspond, as far as possible, to a moisture content of about 12 per cent. In a high humidity climate like that of this country, the required conditions can generally be attained by slight heating. A simple apparatus has been devised for automatically controlling the air conditions in a store. A block of wood is first conditioned to the desired moisture content and adjusted so that its expansion, as a result of increase of the moisture in the block, closes a switch which brings the heating apparatus into play. The rise in air temperature lowers the humidity, thus causing the wood to dry and shrink and so break the electric contact at the switch.

In the box-testing laboratory, tests were made for the Air Raid Precautions Department of the Home Office on two patterns of cartons for respirators.

Cartons have also been tested on behalf of the Ministry of Agriculture and Fisheries for the carriage of National Mark eggs in half-dozen and dozens. The cartons were required to offer maximum protection to the eggs against breakage, give reasonable resistance against pilfering and to fit a standard outer container.

Several series of tests have been carried out for manufacturers, including tests of material such as fibreboard and a special maizeboard, and containers for canned milk, soap, telephone instruments and whisky bottles.

A number of tests have been made on the suitability of various timbers for flooring. In this work an experiment was carried out to determine the effect of repeated applications of oil to wood flooring. The timber used was American oak, and comparative tests were made between panels treated once only with oil and panels treated at intervals during the test. The repeated application of oil was found to retard the surface breakdown to some extent, though there was no change in the form of the ultimate failure. On this evidence, regular treatment with oil helps to maintain the surface of floors carrying relatively light traffic, but makes little difference when the traffic is so heavy as to cause more rapid breakdown of the surface.

The National Physical Laboratory is carrying out preliminary tests for the Forest Products Research Laboratory on the drying of timber by high frequency electric fields such as those produced by radio transmitters. Experiments have also been carried out to discover whether the presence of wood-destroying insects can be detected by X-rays.

The rapidly increasing number of enquiries received at the Laboratory on "Composite Wood" has led the Forest Products Research Board to consider detailed proposals for the installation of equipment for research.

The field covered by these products includes all the industries interested in "solid" wood and several industries in which the use of wood has practically been abandoned.